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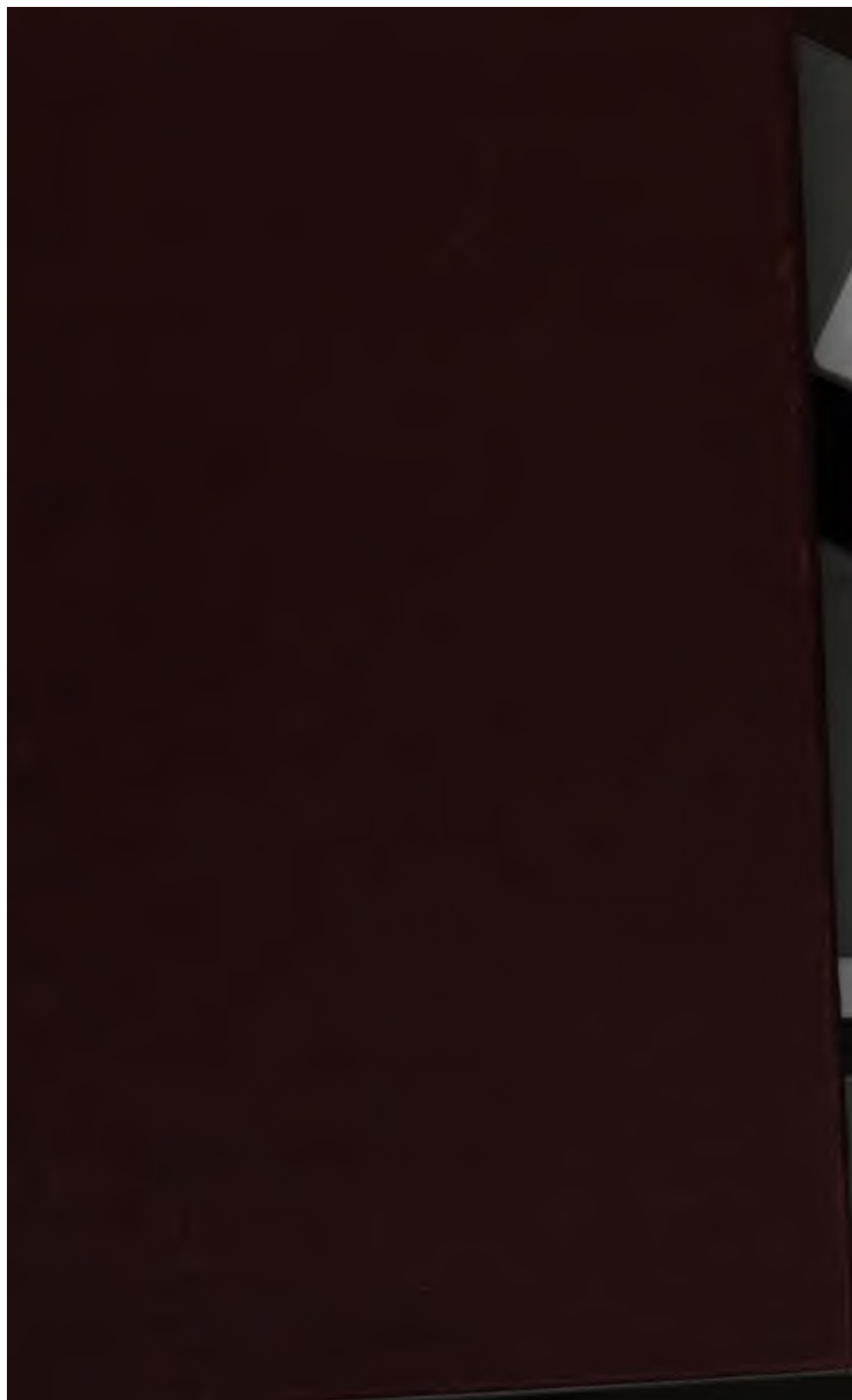
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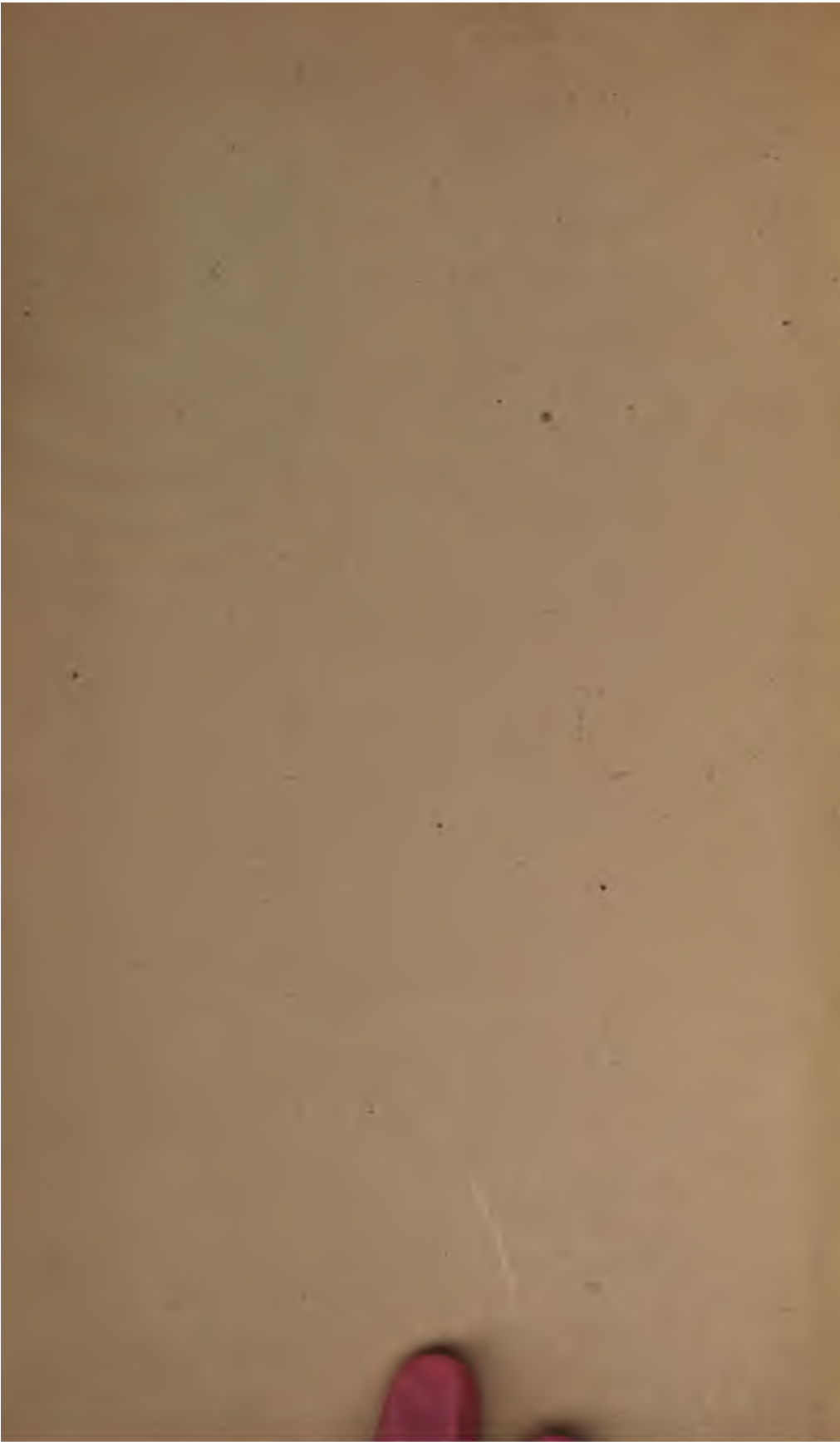
FROM THE FUND

FOR A

PROFESSORSHIP OF  
LATIN-AMERICAN HISTORY AND  
ECONOMICS

ESTABLISHED 1913









F. FERREIRA RAMOS

Civil Engineer  
General Commissioner of the Government of the State  
of San Paulo of Brazil

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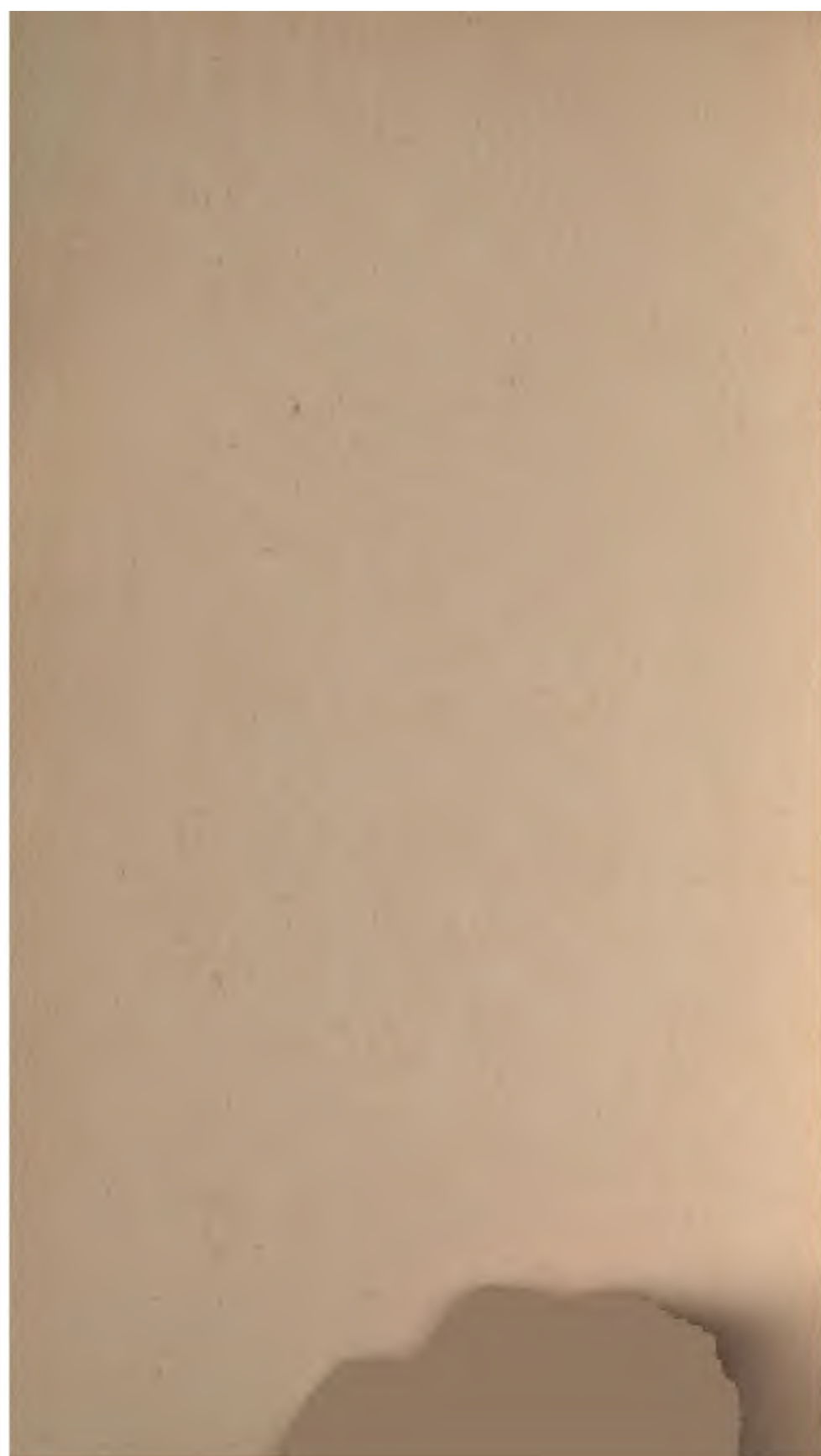
# THE VALORISATION OF COFFEE IN BRAZIL



COMMISSARIAT GÉNÉRAL  
OF THE STATE OF SAN PAULO  
99, PLACE DE MEIR, ANVERS

—  
1907









THE VALORISATION OF COFFEE  
IN BRAZIL



20  
2000

# THE VALORISATION OF COFFEE IN BRAZIL



A LECTURE DELIVERED ON 29<sup>th</sup> JANUARY 1907  
BEFORE THE MEMBERS OF THE ANTWERP SOCIETY  
FOR THE STUDY OF COLONIAL QUESTIONS

BY

**F. FERREIRA RAMOS**

Civil Engineer

Professor at the Polytechnic School of San Paulo

Member of the agricultural Society « PAULISTA »

Member of the Brazilian Agricultural Society of Paris

Member of the French Society of Civil Engineers

General Commissioner for Northern Europe of the Government  
of the State of San Paulo.

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2<sup>d</sup> EDITION

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## PREFACE TO THE SECOND EDITION

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The first edition of our booklet the « Valorisation of Coffee » being exhausted and owing to the constant demand from England, we have been compelled to publish this second edition.

We have seized the opportunity of adding to this second edition the two diagrams of the crop 1906-1907 as well as some other new statistics concerning the San Paulo state.

THE AUTHOR.

*Antwerp*, December 1907.





## AUTHOR'S PREFACE

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The Antwerp Society for the Study of Colonial questions, having asked me through Messrs Georlette and Lalière, two eminent professors at the « Institut Supérieur de Commerce d'Anvers », to lecture before its members on the Valorisation of coffee in Brazil — a question of undoubted importance. — I hesitated, hardly knowing whether I ought to accept the invitation, as I have not a sufficiently fluent command of the French language to adventure the criticism of a select audience of the Society's members.

Assured however that a simple exposition of a subject so essentially interesting to Belgium, and more especially to Antwerp, would suffice, and that a dissertation highly literary in nature was neither requested nor expected, I had pleasure in complying with the request conveyed to me by the above-named gentlemen.

When I arrived at San Paulo, the beautiful capital of the Brazilian State of the same name, about seventeen years ago, to take charge of a group of factories situated about an hour's railway journey from the city, the latter had approximately 80.000 inhabitants. The landlord of the hotel at which I stayed, who had attained the age of fifty, spent the whole of the day working in his office. Leaving the hotel sometimes at about five o'clock in the morning and returning about ten o'clock at night, I always found to my great astonishment « mine host » still at work.

One day I asked him if he never felt tired.





THE VALORISATION OF COFFEE  
IN BRAZIL

forests, meadows, pastures, gardens, etc., is not less than half a milliard francs at the present exchange rate.

The same estate, possessing six hundred million coffee trees, would represent an average of four francs for each tree.

From the careful observations made in the State of São Paulo, 30 kilogrammes of coffee are produced by about seventy plants. If we consider that the average capital of four francs we have assumed is the capital necessary to produce one million kilogrammes of coffee containing 30 kilogrammes, is not the value of the estate about six million francs.

The value of one million kilogrammes of coffee is the same as the value of one hundred million plants, or 280 millions of francs at the present exchange rate. If we allow an interest of five per cent on the capital, and one per cent for expenses, we obtain a total of sixteen francs approximately for each tree, or four times the capital invested, which is a very high rate of interest.

From the careful observations made in the State of São Paulo, the cost of production (cultivation, fertilization, etc.) for 30 kilogrammes of coffee, or for one hundred million plants, amounts to about 14 francs. To this we add 14 francs for expenses incurred, either in Brazil or in Europe, for transportation, export duties in Brazil, carriage, insurance, brokerage, etc., we obtain a total of 28 francs for the cost price of fifty kilogrammes of coffee for the consuming market. And if to this we add the interest on the capital and the expenses, we obtain a total of 56 francs.

It is evident that the value of the coffee of Le Havre, for example, is not less than 56 francs.

allowance for depreciation, already estimated at sixteen francs, we find that in reality the cost of 50 kilogrammes of coffee comes to sixty six francs before it reaches the European market.

In order therefore that the cultivation of coffee may be remunerative, the price should never be lower than sixty six francs per fifty kilos on an average.

Unfortunately, for several years past, prices of coffee which during ten years had obtained an average of 97 francs per fifty kilos (occasionally even 130 francs) have fallen little by little to forty francs, and even lower, which variation in price we have explained in diagram N<sup>o</sup> 1 page 12 (\*).

The situation of the planter, in consequence of these very low prices, is most deplorable, and the question we are treating, becomes one of paramount interest not only to Brazil but equally to every country where coffee is consumed. For, if Brazil were to abandon the cultivation of this produce in consequence of the little remunerative prices obtained, the result would be disastrous.

The production in Brazil alone, as a matter of fact, follows the increase of consumption; and it is noticeable for the last thirty five years that *the yield in other producing countries has not increased even with the prices ruling higher than one hundred francs*. Thus Brazil is the only country that has kept pace with the increase in consumption, thanks to its soil and its climate, both essentially favourable to the production of coffee. This result is also due in part to the economical development of the country.

The diagram of the average production of Brazil and of

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(\*) In this diagram the cost-price is estimated at 50 francs, the interest on capital and the allowance for depreciation not being included.

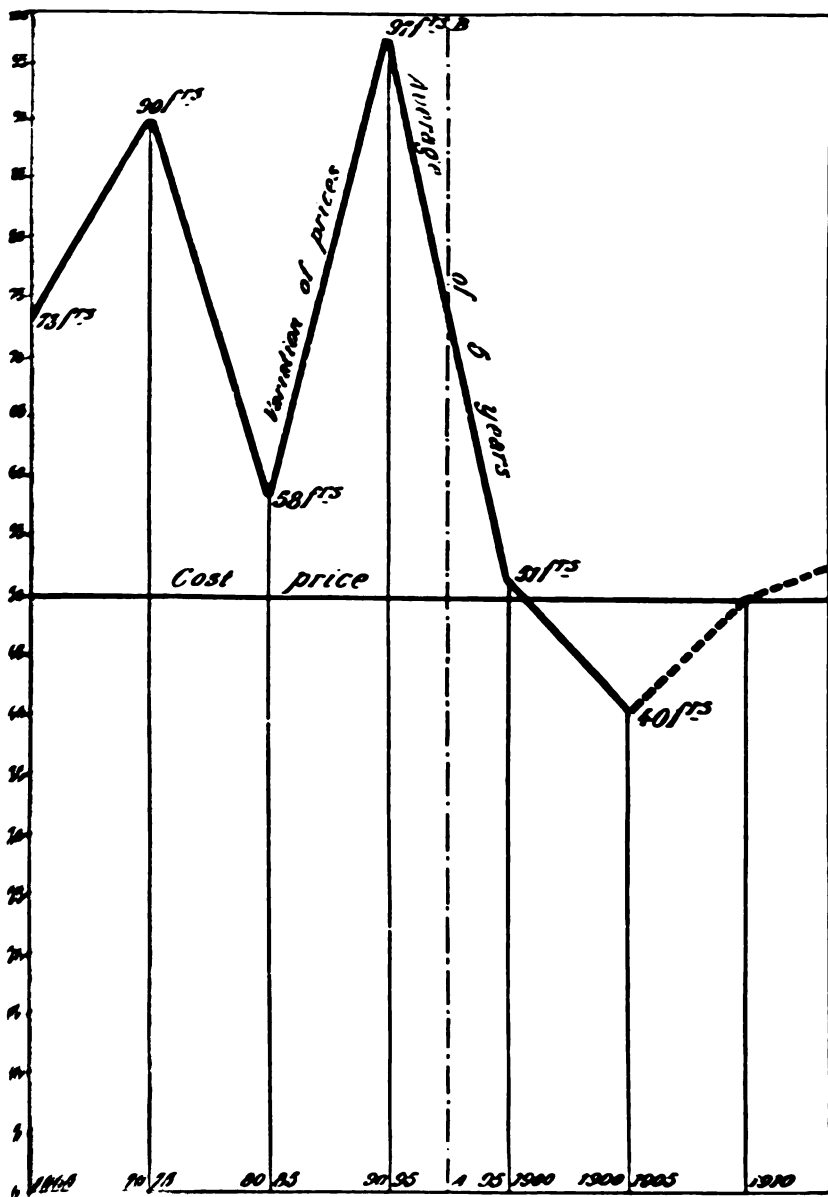


Diagram showing variation in prices.

other countries (Plate 2, page 14) clearly shows that Brazil alone has increased its production; the other countries showing rather a retrograde movement.

In order to be able better to realize that Brazil alone has increased its production, the indefatigable Secretary of Agriculture, Dr Carlos Botelho, representing the Government of the State of San Paulo, sent an expert — Professor Augusto Ramos — to the other producing countries to study both cultivation and production. The report presented by this gentleman confirms the statistics published by Mr. Laneuville of Havre and Mr. A. Siciliano in a treatise on the valorisation of coffee, which are to be found in a speech on the subject made by the Brazilian Minister of Finance, Dr. David Campista.

Another question arises conjointly with the increase of production, which clearly demonstrates the importance of the whole subject. It has been ascertained in San Paulo that in proportion to the development of coffee cultivation, the centres of production recede farther and farther away from the populous centres, and this naturally increases the cost of production. Surprised at this curious phenomenon, the learned Dr Pereira Barretto exclaimed, «Coffee is a savage plant, which shrinks from the grand centres of civilisation». As a matter of fact it is always found in the neighbourhood of large forests.

As we have just endeavoured to prove, the cultivation of coffee under present conditions, cannot be remunerative to the planter, who, if the situation remains unchanged, must abandon its cultivation altogether in favour of other products which will justly remunerate him for the capital and labour employed.



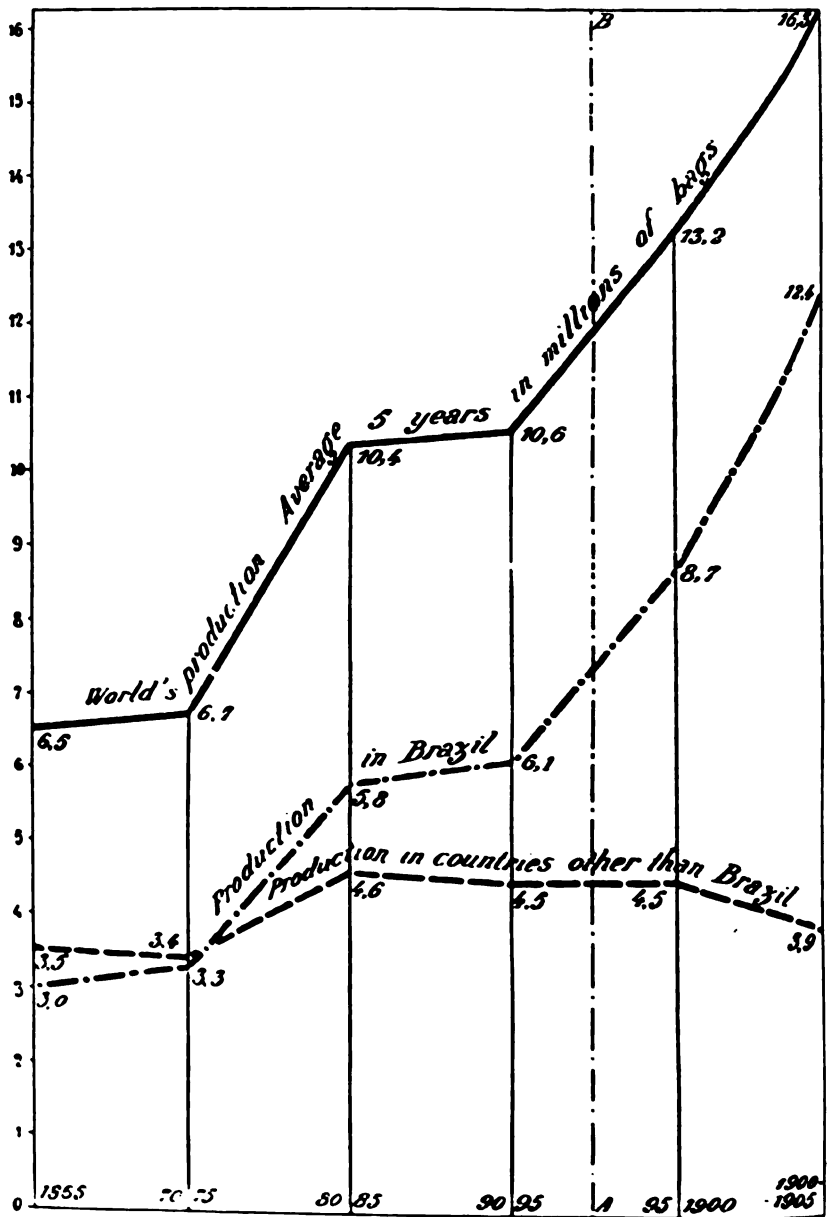


Diagram showing average production in **Brazil** and in other countries

### **Measures taken by the State of San Paulo to diminish the production of coffee**

When prices first began to fall, and even when they were higher than the cost of production, no one imagined that the Brazilian States and the Federal Government would intervene to sustain the coffee planters in their struggles against such an unfavourable state of things. The planters, by their own means, endeavoured to reduce their working expenses as much as possible in order to lower the cost of production. They could not, however, materially cut down the wages of the workmen on the plantations, who would not have delayed abandoning the work altogether.

Later on, when prices fell lower and still lower, the Government of the State of San Paulo intervened, at the request of the planters themselves, with the object of limiting the development of the plantations and to regulate the production of coffee; and passed a Law levying a prohibitive tax on the planting of fresh trees, to be in operation for a period of five years. We may safely assert that this Law was the salvation of many planters; for, otherwise the production had certainly continued to increase more and more.

As a matter of fact, wide tracts of virgin soil still exist in the State of San Paulo, for, out of 1,855,000 hectares suitable for coffee cultivation, only 772,110 hectares were in the year 1902 devoted to it.

It is beyond doubt that without the restrictive Law there would have been a large increase of plantations, involving the ruin of those planters who were distant from the exporting centres; and of those whose plantations, which either by reason of their age or other unfavourable circumstances, afforded but scanty and irregular crops.

The same Law also brought about an improvement of quality, and compelled planters to cultivate other produces such as cotton, sugar-cane, maize, rice, cocoa etc., of which we give illustrations in another part of this work. Already, in the State of San Paulo, these products have attained considerable importance.

With the object of diminishing the supply, before this Law was passed it was decided to withdraw from sale all coffee of an inferior quality.

### **Measures taken by Brazil to regulate prices**

At the beginning of the year 1906, in spite of the beneficial influence of the Law mentioned, prices had reached such a low limit that the planters found themselves in a very precarious situation, which would have been rendered still worse by the extraordinary 1906-07 crop. The importance of the latter must be attributed to the exceptional conditions in the distribution of heat and rain.

What was to be done in face of these untoward, circumstances : leave the planter to himself, to his own resources, or accord him official support ?

Left to himself he would have been compelled to abandon the cultivation of coffee (\*).

If it were a question of the cultivation of wheat, maize, tobacco, cotton, rice, sugar-cane, etc., the problem would not be so complicated, over-production being avoidable by simple abstinence from planting during a period of one or two years.

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(\*) It was known that the average production was lower than the consumption, and that an exceptionally heavy crop alone had produced this want of equilibrium for one or two years.

But such a course is not possible with the coffee tree, which — once planted — requires at least five or six years before producing its first regular crop. And during this period what care is demanded and what anxiety is engendered in the mind of the poor planter ! You must be a planter yourself and live in this immense « coffee ocean » during the rainy season or during the gathering of the fruit, in order to form an idea of the admirable work performed by those who produce the precious bean.

To reduce the production by a million bags it would necessitate, as we have already seen, the elimination of three hundred and thirty six million francs capital ! Should we allow such a large sum to be lost ? Should we abandon such a large part of the production ? Should we allow such a vast public fortune to disappear, never perhaps to be regained ?

We do not think so, since, once coffee-planting being abandoned it is very difficult to create a new plantation on the soil where other coffee trees have died.

Confronted by this situation, it was therefore difficult to leave the planter to his sad fate, and the only way of assisting him was by the official intervention of the Government of the three Brazilian coffee producing States, having as their common object the discovery of some means of maintaining coffee at a remunerative price.

Had Brazil been a country possessing an abundance of capital, with sense of coöperation highly developed, the problem had long since been solved ; but there, with a population of 21.000.000 inhabitants scattered over an immense territory of eight million square kilometres, where the planters of the same State are at long distances from one another, it was impossible to solve this great problem without the support of the Government which intervened

with the object of serving as an intermediary between the capitalists and the planters.

Acting on this principle, a Convention or Treaty — known as the « *Convenio de Taubaté* » — was concluded between the three principal States interested, namely San Paulo, Rio de Janeiro and Minas Geraes.

### **« Convenio de Taubaté » or Agreement of the three Brazilian Coffee producing States**

The Treaty of Taubaté signed by the presidents of the three Brazillian coffee producing States, in execution intended to maintain coffee at a certain value, or in other words to effect its valorisation, contains several clauses the principal of which we extract from the Review « *France-Bésil* » of the 31<sup>st</sup> March 1906.

« During a period of six years, which may be shortened or prolonged by mutual consent, the contracting States undertake to maintain on the national markets, during the first year, a minimum price of 50 or 60 francs gold (or in currency of the country at current rates of exchange) per bag of 60 kilogrammes (1 kg. = lbs 2.20485) type seven American, with power to increase this price to a maximum of 70 francs according to the state of the market. For the higher qualities, according to the same American classification, the prices indicated will be increased in a similar proportion during the same period.

» By means judged expedient the contracting governments have power to prohibit the export of coffee inferior to type 7, each one doing its best to ensure consumption of such coffee in the country itself.

» The contracting States undertake to organize and maintain a regular and permanent propaganda in favour of

coffee in order to increase its consumption, either in developing existing markets or in creating new markets in those countries where the consumption is but small or non-existent; or in combating as much as possible against the falsification and adulteration of the product.

» When they shall deem the moment opportune, the contracting Governments shall fix the types of the coffee of the country by facilitating the creation of an Exchange, or Central Syndicate, to regulate the trade. For those new types the prices shall be fixed in accordance with the basis above named.

» The contracting Governments shall do their best to give planters facilities to deliver coffees for consumption, prepared as carefully as possible.

» The contracting Governments undertake to levy a surtax of three francs — subject to augmentation or diminution — on each bag of coffee which shall be exported by one or other of these States; and also to impose, for a period of at least two years, sufficiently high taxes to meet the case on all lands which in their respective territory shall be devoted to coffee cultivation.

» The proceeds of this taxation shall be received by the Union and utilized for the payment of the interest and sinking fund of the capital necessary for the due and proper execution of the Convention. The available balance shall be devoted to the reimbursement of any expenses incurred in carrying out the terms of the same convention.

» The contracting States, as long as this Convention shall be in force, may not levy upon coffee any taxes other than those which actually exist together with those created by virtue of this agreement or convention.

» For the execution of this Convention the State of San Paulo is authorized to make a loan either at home or

abroad any sum, not exceeding £ 15.000.000 sterling, deemed necessary to carry out such agreement; such loan to be guaranteed by the surtax of 3 francs per bag, under the joint responsibility of the three contracting States.

» The sum produced by this credit-transaction shall be exclusively devoted to the objects of the present agreement, and may not be diverted in favour of any other transaction whatsoever.

» If it become necessary that the Union endorse any such credit operations, the dispositions of Art. 2, N<sup>o</sup> 10, of Law 1452, under date 30<sup>th</sup> December 1905 must be observed.

» Before definitely concluding the loan transactions, the State of San Paulo shall submit the clauses and conditions for the approval of the Union and of the three contracting States. The organization and management of the different services in connection with the Convention shall be confided to a commission of three members appointed by the contracting States, namely, one member for each State; and its President, who shall have the right to vote, shall be appointed by the State of San Paulo.

» The deliberations of this Commission shall be regulated by an absolute majority of votes. Each member shall have a substitute who shall replace him when unavoidably absent. The substitutes shall also be appointed by the contracting States.

» This Commission shall establish the various services and appoint the members of the staff necessary for the carrying out of the Convention, and further may delegate wholly or in part the execution of the contract to a national syndicate or association, subject to direct financial control.

» The headquarters of the Commission shall be established in the City of San Paulo, and the Government of

this State, as delegate of the others. shall undertake the direction of its proceedings.

» To carry out the different services of the Convention the Commission shall draw up regulations, which must be submitted to the approbation of the Government of San Paulo.

» The liabilities and advantages resulting from the Convention shall be shared by the contracting States proportionately to the amount of surtax imposed in each State.

» The contracting States recognise the President of the Republic as final arbitrator in any difficulties that may arise in the execution of the present Convention.

» This Convention to be in force immediately it shall have been ratified by the Presidents of the contracting States and approved by the President of the Republic. »

The « *Convenio de Taubaté* », having been subsequently subjected to certain modifications, was then approved by the Chamber of Deputies of Brazil.

The modifications in question were as follows :

« The Presidents of the States of Rio de Janeiro, Minas Geraes and San Paulo are agreed and resolved to modify the Convention of Taubaté in adding thereto the following clauses, which become ipso facto part and parcel of the said Convention.

1<sup>o</sup> Article 1 of the Convention is replaced by the following :

« During the period of time to be deemed advisable the contracting States undertake to maintain on the home markets the minimum price of thirty two to thirty six thousand reis (\*) per bag of sixty kilogrammes of coffee, type seven American, for the first year. This minimum

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(\*) At present rate of exchange 1000 reis equals 1.70 frs.



price may be ultimately raised to a maximum of forty thousand reis according to the market demand. In regard to superior qualities, in accordance with the same American classification the prices thus modified will be proportionately increased during the same period.

2º » If the loan transaction shall be successfully carried out without the endorsement or guarantee of the Union the surtax of three francs referred to in Article 7 of the said Convention shall be levied by the three States and the proceeds shall be kept in reserve to be applied conformably to the dispositions of Article 7.

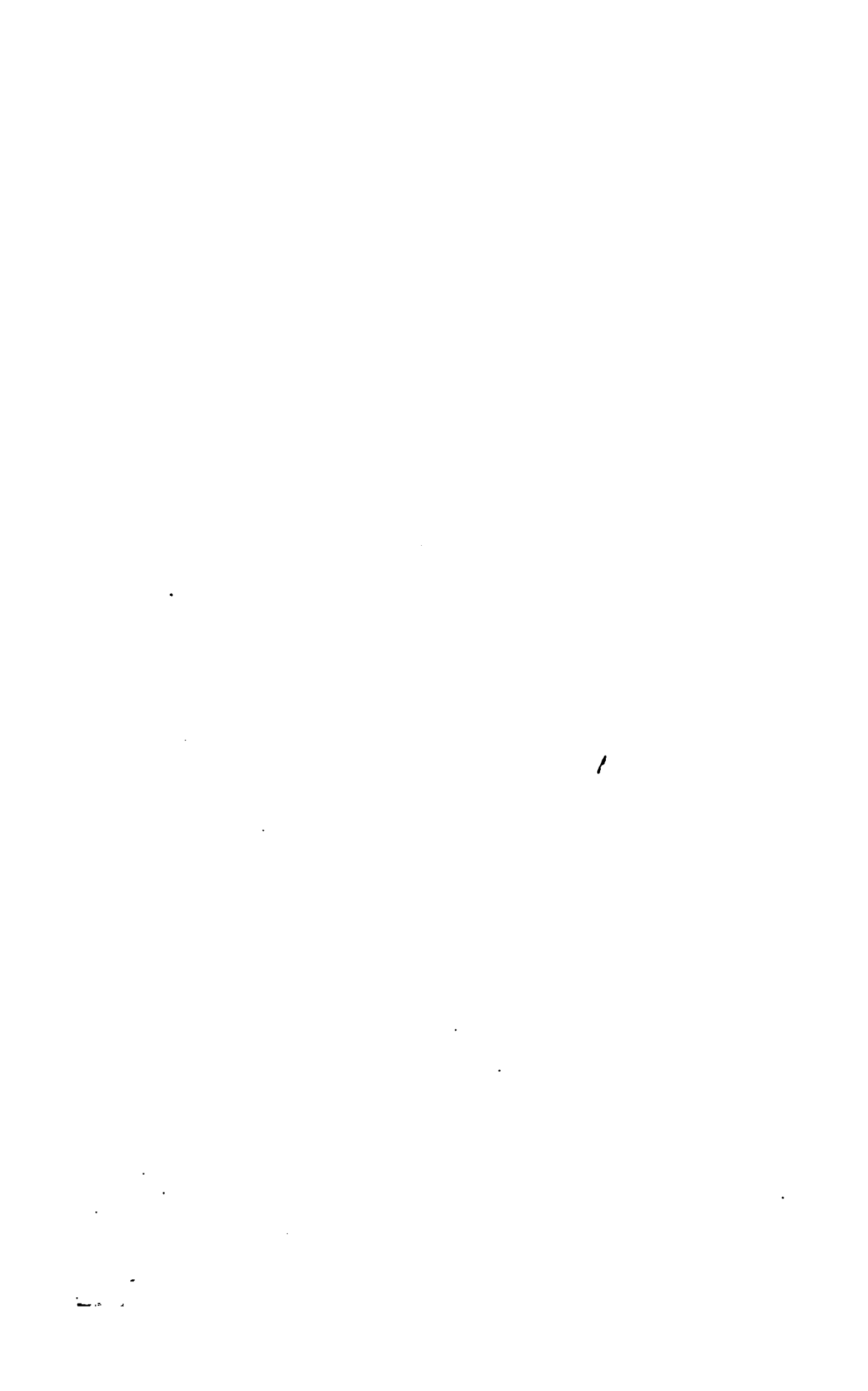
3º » The levying of the surtax of three francs shall begin at the period indicated by the contracting States.

4º » Until such time as the Bank of emission and of Conversion shall be established and shall have commenced working, the States shall be at liberty to apply directly the proceeds of the loan to the valorisation of coffee.

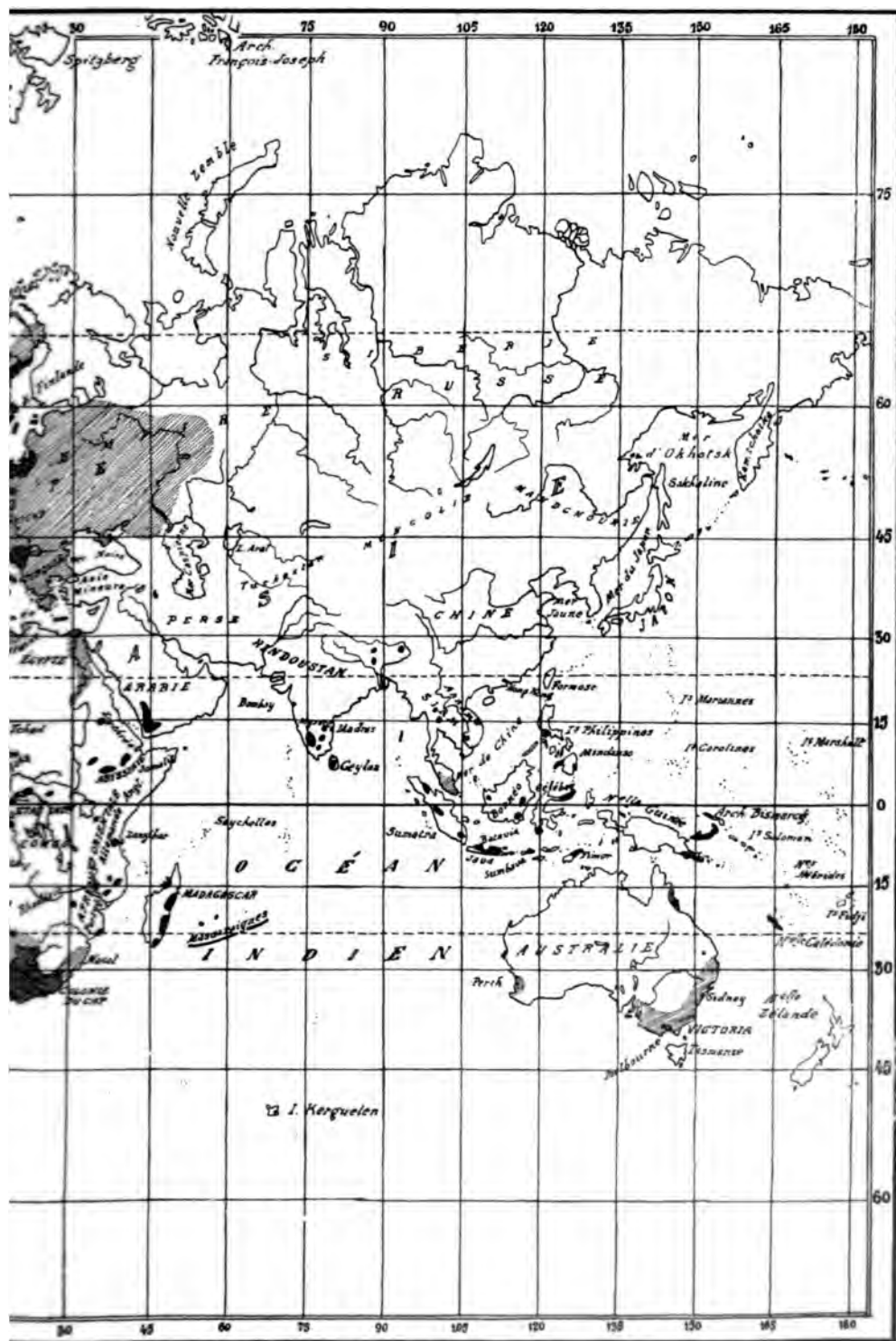
5º » Before concluding the negotiations relative to the loan mentioned in Article 8 of the said Convention, the Government of San Paulo shall submit the terms and conditions to the examination and approbation of the Government of the other contracting States; as well as to the Federal Government, in case the endorsement of the Union shall be given, so as to determine the responsibility of each of the States in question.

6º » The present Convention shall be in force from and after the date of its approval according to the dispositions of Nº 16, Art. 48 of the Constitution ».

When the modified Convention was presented for approval at the Brazilian Congress, the Deputy David Campista, reporter to the Financial Commission, brought before the Chamber of Deputies a scheme for founding an









Issue Fund and Conversion Fund, already approved by the same Commission (\*).

### **The Intervention of the Brazilian States in the Question of the valorisation of Coffee : what does it consist of ?**

The official intervention of the Brazilian coffee producing States is intended to serve as intermediary between the capitalists and planters, in order to ensure a remunerative price for coffee.

The valorisation scheme adopted with this object consists, as we have already said, in levying an export duty of three francs per bag of sixty kilogrammes. With the proceeds of this tax the Government guarantees the interest and sinking fund necessary for the redemption of the loans, enabling it to purchase and withdraw from circulation a quantity of coffee sufficient to maintain quotations above cost price. The coffee thus purchased is then placed on « warrant » in the principal markets of the world, to be sold only when quotations are judged to be favourable, so that the planter may obtain a reasonable profit and thus not only avert ruin but, in addition, those extreme variations in the price which are always harmful to the consumer.

The scheme of valorisation likewise embraces propaganda to augment the consumption of coffee, but this consumption — although always growing — scarcely shows an average upward movement of more than three to four per cent annually (Diagram 3, page 24).

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(\*). Extracted from « France-Brésil » 31<sup>st</sup> Aug. 1906 : « The Convenio » has been approved by the legislative Powers of Brazil and sanctioned by President Penna.

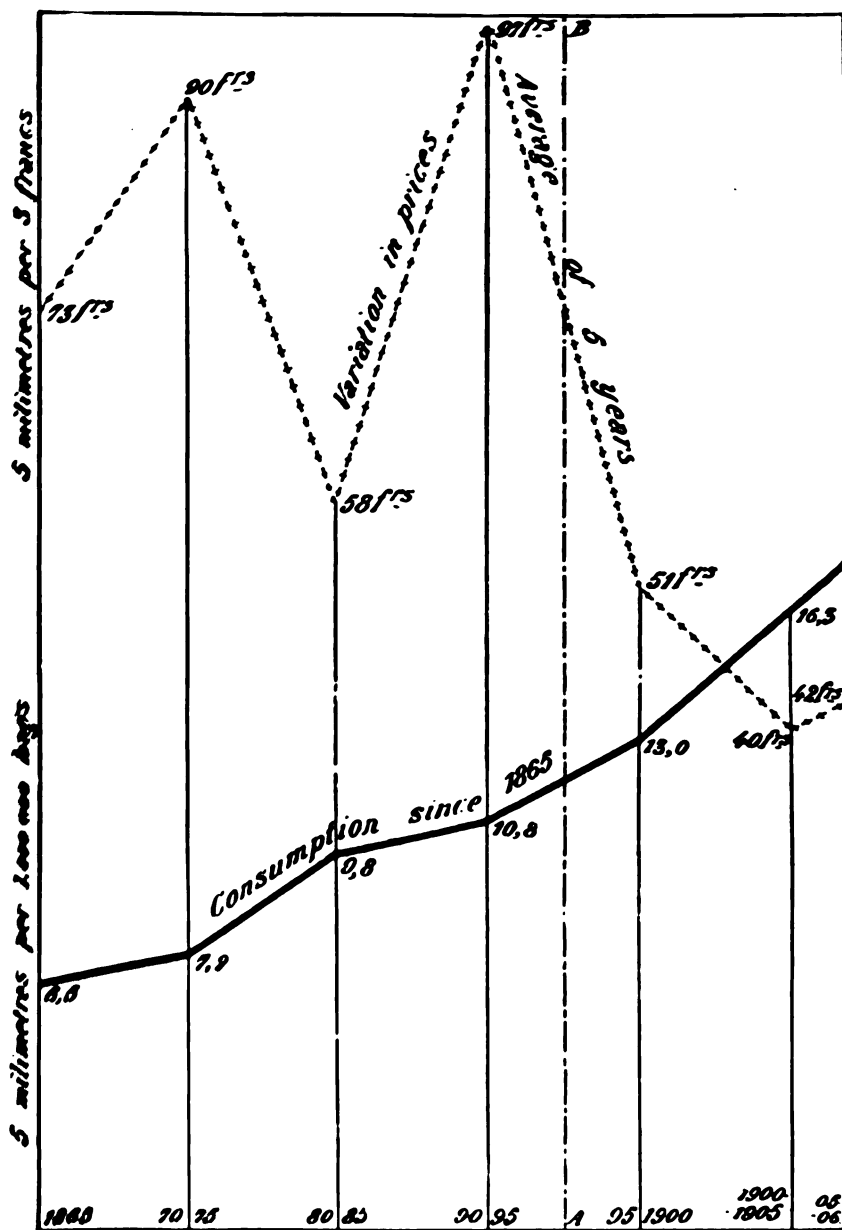


Diagram of the variation in the consumption and in the price of coffee.

Prior to the signing of the « Convention of Taubaté » the « Correio Paulistano » (\*) a newspaper of the State of San Paulo, under the heading « Valorisation of Coffee », published the following article, reproduced in « France-Brésil » on the 31<sup>st</sup> December 1905 :

« The wealth of the State of San Paulo says the author of this article consists almost entirely of its agriculture. Not only does this give food supplies to a population of nearly 3.000.000 souls, but, by reason of the large sum of money which the export of coffee produces it contributes most materially to the revenue of the State and other Municipalities.

» In estimating 8.000.000 bags as the quantity of coffee produced by the State of San Paulo, this represents — at present prices — a money value of 200.000 contos (\*\*) or more than 340 million francs. The total revenue of the State is valued at 36.775 : 000 \$ 000 of which 21.420 : 000 \$ 000, or nearly two thirds are furnished by the tax on coffee. This same tax also returns more than 600 : 000 \$ 000 to the Municipalities (\*\*\*).

» It is therefore indispensable to remedy the crisis caused by the depreciation of coffee selling prices and to ensure that this product of such world-wide consumption should at least pay for the cost of its production and assure a means of living to the planter.

» The valorisation of coffee then becomes an object of paramount necessity. It must be accomplished, for it is inadmissible that a planter should ruin himself in cultivating a product which the world appreciates and consumes, and for which it pays much.

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(\*) The editor at that time was Dr Herculano de Freitas.

(\*\*) A conto equals 1.700 frs at fixed rate of exchange.

(\*\*\*) 36.775 : 000 \$ 000 is read as 36.775 contos or 36.775.000 thousand reis.



» What is the cause of this fall in the price of coffee ? The excessive production, is the reply which we hear on all sides. This excess, if indeed it exists, has been caused by the exceptionally heavy crops in San Paulo a few years ago; but these phenomenal crops may not occur again. The high level of prices which coffee attained during a certain period led to an abuse in planting and brought to the market the enormous crops of which we have spoken.

» But the production of the old coffee trees in the State of San Paulo and of the neighbouring States has diminished, and large plantations established on unsuitable soil have been exhausted in the natural order of things.

» In addition to this, the destruction of vast forests has modified the rainfall and rendered the climate less favourable to coffee cultivation.

» It is also certain that San Paulo will not again see those abnormally large crops which have had so much influence on the fall in prices.

» How is it that, whereas quotations fell three years ago from 100 francs per 50 kilos to 30 francs, and to less than 50 francs today, the retail prices to the consumer remain practically stationary ? It is truly astonishing that this excess of production has diminished the prices paid to the planter without in any way altering that, paid by the consumer.

» It is necessary to take action in the matter with as much promptitude as prudence, and to display real energy.

» It is evident, in fact, that the crops — as heavy as they were abnormal in the last years — will not be reproduced and, moreover, account must be taken of the increase in the consumption, amounting annually to some hundred thousand bags.

» Although, in starting from the hypothesis that the average production of coffee is inferior or at any rate



equal to the consumption, and that this production tends to decrease rather than to increase, it is indisputable that the « visible stock » will not delay reaching the normal quantity, and that the balance will lean in favour of the planter. As long as the tax on new plantations shall be in force, cultivation will remain stationary; and when the Government will allow fresh plantations to be made, these will only yield a crop five years afterwards and would only replace those already exhausted. Everything therefore tends to the valorisation of coffee.

» If, in spite of the falling quotations, the consumer continues to pay very much for his coffee, and if in spite also of this the consumption of coffee increases, how much greater would have been this augmentation if the consumer had benefited by the fall of more than fifty per cent in the quotations? And this immobility in the retail prices proves indeed that coffee is not offered to the consumer in excess of the demand.

» This valorisation may be obtained either in increasing the export duties on coffee of low quality, or in destroying on the spot a portion of the coffee so as to avoid the transport charges and other costs. This valorisation will be besides brought on naturally by the increase of consumption.

» Is it possible to provoke a still larger increase in the consumption ?

» Yes, by making coffee better known and appreciated, by the prosecution of falsification and by obtaining the imposition of lower custom duties in certain countries to which some compensating tariff-concessions might be conceded.

» With regard to a propaganda in favour of coffee, there are many means of effecting this; and there would be no objection if the government were to grant aid in the form






# Coffee Exportation

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THE 1901-1902 CROP  
IN BAGS OF 60 KILOGRAMS

EACH BAG REPRESENTS  
50.000 BAGS

**BRAZIL**  
16.246.000 bags.



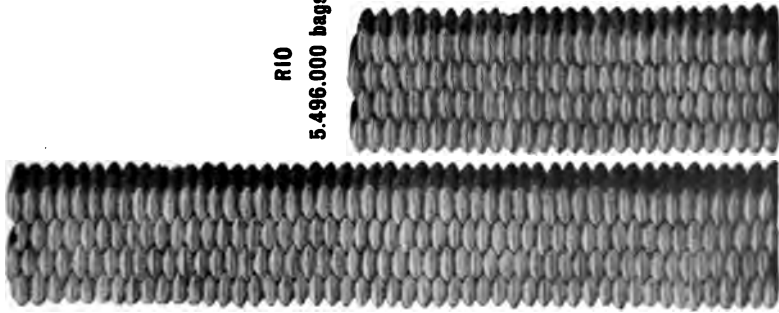
**FOREIGN COUNTRIES**  
3.342.000 bags.

PLATE 4.



SCALE

10,000,000 bags.



RIO

5,496,000 bags.

# Coffee Exportation

THE 1901-1902 CROP

IN BAGS OF 60 KILOGRAMS

EACH BAG REPRESENTS 50.000 BAGS

BAHIA and  
VICTORIA  
750.000 bags.

COLUMBIA  
AND  
CENT. AMERICA

OTHER  
COUNTRIES

JAVA

HAYTI

1,150,000 bags 800,000 bags. 517,000 bags. 450,000 bags. 425,000 bags.



BRAZIL

FOREIGN COUNTRIES

PLATE 5.

# Coffee Exportation

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THE 1906-1907 CROP  
IN BAGS OF 60 KILOGRAMS

EACH BAG REPRESENTS  
50.000 BAGS

*(Statistics of Mr LANEUVILLE of Havre).*



**BRAZIL**  
**20,190,000 bags.**



**FOREIGN COUNTRIES**  
**3.595.000 bags.**

PLATE 6.

# Coffee Exportation

THE 1906-1907 CROP  
IN BAGS OF 60 KILOGRAMS  
EACH BAG REPRESENTS 50.000 BAGS

(Statistics of Mr LANEUVILLE of Haare .

RIO  
4.234.000  
bags.

BAHIA and VICTORIA	564.000 bags.	MEXIQUE and Cent.America	1.745.000 bags.	VENEZUELA COLUMBIA EQUATEUR & PEROU	650.000 bags.	JAVA	500.000 bags.	HAYTI	375.000 bags.	OTHER COUNTRIES	325.000 bags.
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B R A Z I L      F O R E I G N   C O U N T R I E S

PLATE 7.

of premium or interest guarantees on capital employed, to those merchants or companies of standing and repute, who would become propagandists of the San Paulo coffee in those countries, Italy for instance, where the consumption is of trifling importance, or in England or Russia where the consumption is comparatively speaking equal to nothing.

» Such propaganda would be productive of substantial results and would largely compensate for the bounties thus granted. .

» At present the coffee from San Paulo is cried down on the European markets by the coffee merchants themselves; that coming from Java, Porto Rico and Mocha alone being good ! As the quantity of these coffees is very small, their interest is to raise quotations as much as possible and then to sell as genuine Java, Porto Rico or Mocha a similar coffee purchased at a low price in San Paulo ».

A sound propaganda will not only increase the consumption but will also establish the reputation deserved by the coffee grown in San Paulo, and the Government will be largely indemnified for the eventual sacrifices made.

As pointed out at the end of this article, certain Brazilian coffees similar in appearance are sometimes sold under the name of Java and Mocha varieties. For this purpose the best quality Brazilian is naturally selected, whereas the inferior qualities are put on the market without any attempt at concealing their source of origin.

In order to demonstrate, that what we here state is not a question of mere imagination, it suffices to recall what we have ourselves observed during the St-Louis Exhibition of 1904. A Cookery College of a large city in the States wrote at that time to General Aguiar, Brazilian Commissioner General :

« In 1903, coffee to the extent of 20,000,000 lbs was

imported into the United-States of Northern America from Java and Mocha — the figures being 17 1/2 millions and 2 1/2 millions respectively. Beyond these quantities more than 500 million lbs of Brazilian coffee entered ».

During the year 1903, 500 million lbs of Java and Mocha Coffee were sold in the United-States, that is to say, about 450 millions more than the whole production of Java.

Where did this coffee come from ?

To be able to form an idea, it is enough to examine the illustrations (Plate 4, 5, 6 & 7, page 28, 29, 30 & 31), which represent the production in Brazil compared with other countries, the figures being based on the statistics drawn up by Mr Raul de Rezende Carvalho. .

The total production of Java would not suffice for the consumption of Belgium and Holland and almost every time you ask for « good Mocha » you are served with « real Brazilian ».

### **Conjectures upon which the valorisation of coffee is based**

This question of valorisation has not been taken in hand lightly. It does not only interest the planter, who has a right to be justly remunerated for his labour, but also the countries in which coffee is consumed. It is not then in reality a purely local question, but one of wide and general interest; for, if Brazil were obliged to abandon to any considerable extent the cultivation of coffee — to seek in some other produce the reward of labour — one could scarcely imagine what would be the price of coffee consequent upon the fact of the supply not keeping pace with the demand.

But let us return to the actual state of affairs and



examine what will occur after the heavy crop of this year. Therefore, we must first of all compare the production and consumption of the last few years. In consulting the diagram illustrating the average (\*) statistics of these for the period 1899-1907 (Plate 8, page 35), we see that in 1901-02 the consumption of coffee reached 14,000,000 bags, whereas the world's crop for the same year exceeded this demand by about 8,000,000 bags.

Since then consumption has increased, and from 14 millions in 1901-02 has reached 17 millions in 1906-07. The crop gathered during the year 1906 and put on the market (crop 1906-07) may be estimated at 20 1/2 to 23 1/2 million bags. It will therefore only exceed, the consumption of the corresponding period by 3 1/2 to 6 1/2 million bags.

The stocks of coffee, which — before the crop of 1901-02 — were 6 million bags, rose after that year's crop to 14 million bags (6 existing plus 8); but, during the four following years (1902-03, 1903-04, 1904-05, 1905-06) the consumption exceeded production by about 5 million bags, so that stocks on 1<sup>st</sup> July last were only about 9 1/2 million bags. Prices had varied between 29 and 56 francs per 50 kilogrammes (\*\*).

For the quinquennial period 1906-07 to 1910-11 we shall see the same phenomenon as that witnessed during the period 1901-02 to 1905-06.

The production of the period 1906-07 will not, as a matter of fact, be lower than 20 1/2 to 23 1/2 million bags, a figure comparable with that of 1901-02.

We do not in any way exaggerate the importance of the present crop. Everybody knows in fact that all circum-

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(\*) According to the supplies already to hand, we may estimate the world's supply to be from 20 1/2 to 23 1/2 million bags.

(\*\*) See statistics prepared by Mr Laneuville, of Havre.

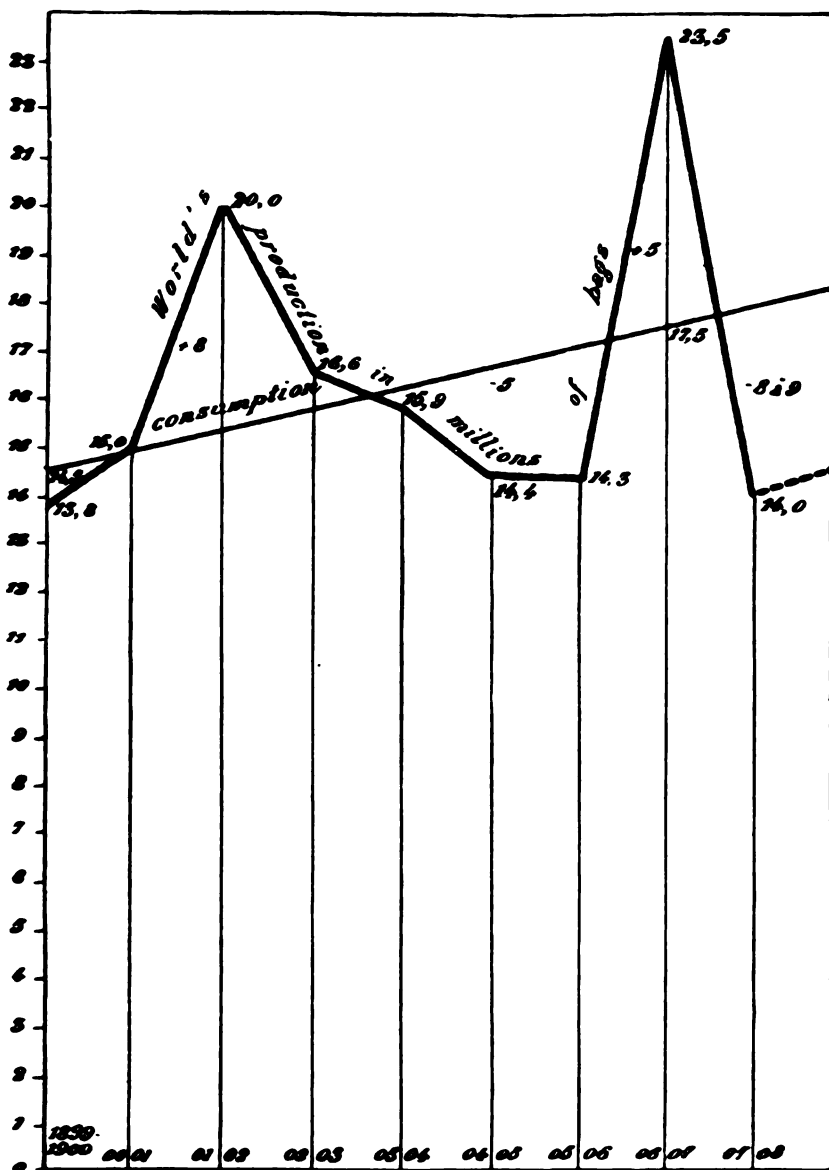


Diagram of the average production and consumption (1899-1907).

stances have been most favourable, and that all climatic conditions have cooperated to attain this result.

A doubt may be cast upon our contention and one may urge that the crop of 1906 was terminated before that of 1901, but it must not be forgotten that the railways now are better equipped for the transport of coffee (\*). In proof of this it is sufficient to point out that the San Paulo Railway Company, running between Jundiahy and Santos, through San Paulo, has doubled its lines of rails; that the Paulista line has nearly doubled the extent of its lines between Campinas and Jundiahy; and that the Mogyana and the Sorocabana, which were badly organized in 1901, now possess a very excellent service and dispose of a material (locomotives and trucks for merchandise), of much greater importance.

Further, the need for ready money has compelled planters to send their coffees with all possible despatch to Santos

The crop of 1906-07 may then be compared to that of 1901-02.

Let us now show that the four coming crops 1907-08 to 1910-11) may, — in regard to their importance, — come very near to those four small crops which followed the unusual crop of 1901-02. Several reasons enable us to predict that the four next approaching crops will be rather weak.

In the first place, about four years ago, as we have already pointed out, a Law was passed which imposed a prohibitive tax on the planting of fresh coffee trees. As a consequence of this Law no further plantings, so to speak, have been subsequently made in San Paulo. In 1901-02

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(\*) For the railway system of to-day see map of the State of San Paulo.

there were about 685 million trees, 140 millions of which were too young to yield any fruit, being only from one to four years of age.

After the application of the Law the number of coffee trees was reduced, owing to various causes. First of all there were many which fell victims to heavy frost; many succumbed to drought; others again perished owing to want of proper cultivation, and lastly many of the old trees disappeared in the natural course of decay. It has been calculated that in six years, (and for the reasons just stated), twelve per cent of the trees of 1901-02 no longer exist, which makes a decrease of two per cent annually. Consequently, for the years to follow one may only count upon the production of about 600 million coffee trees.

During the four years which followed the crop of 1901-02 the average production of each tree in the State of San Paulo was about 720 grammes (\*).

The figure for the four next crops seems to be rather exaggerated, and in support of this we refer to letters which we have received from well informed planters, and upon the Report of the Commission appointed by the Secretary of Agriculture for the State of San Paulo

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(\* The « Annuario d'Estatistica » of the State of San Paulo, speaking of the 685 millions of fully grown coffee trees, of which 140 million young trees, says that these latter evidently represent twenty per cent of the total number of trees more than four years old. We venture to remark that these 140 millions of one to four years growth, correspond to an average annual increase of 35 million trees during the prosperous years, if indeed we do not take into account the disappearance of the old trees, their number being however not to be neglected. If thus we consider the increase of productive trees as 35 millions annually, and admit the yield of 750 grammes of coffee per tree, we perceive that the increase in the annual production (prior to the passing of the law) was of about 400 million bags, a figure which is lower than the average increase of the actual consumption.

together with the Agricultural Commission of 170 districts, to estimate the coming crop, that of 1907-08. According to the well drawn up Report which we publish as a supplement to this work, this crop will show a strong decrease in quantity.

This decrease must be ascribed to the exhaustion of the coffee trees, which have furnished just previously a bumper crop, and which besides have subsequently suffered from the effects of drought.

To establish our estimates of the four next crops we shall certainly not go beyond the truth in relying upon an average production of 720 grammes per tree. Knowing that 600 million full bearing trees actually exist, we reach a figure — for the State of San Paulo alone — showing an annual average production of 7 1/4 million bags.

The other Brazilian States and the other producing countries having rather a tendency to diminish their production, we may without fear of mistake adopt the preceding averages. That will give us then, for the four years of the period 1907-08 to 1910-11 a total of 59 1/2 million bags which, added to the 20 1/2 or 23 1/2 millions of the 1906-07 crop, will give a total of 83 million bags for the quinquennial production of 1906-11.

Let us admit for the moment, although it is assuredly not the case, that the consumption does not increase and always remains at 17 1/2 million bags. We have then, for the period of five years 1906-1907 to 1910-1911 a consumption of 87 1/2 million bags, that is to say four or five million bags in excess of the production (see Plate 9, page 39).

The stocks which on the 1<sup>st</sup> of July last were 9 1/2 million bags will be reduced in 1911 to 4 or 5 millions.

Now, with a stock of about 7 millions and a consumption of 14 million bags, we have seen the price go up to 56 francs. Moreover, with stocks equivalent to 30 % of

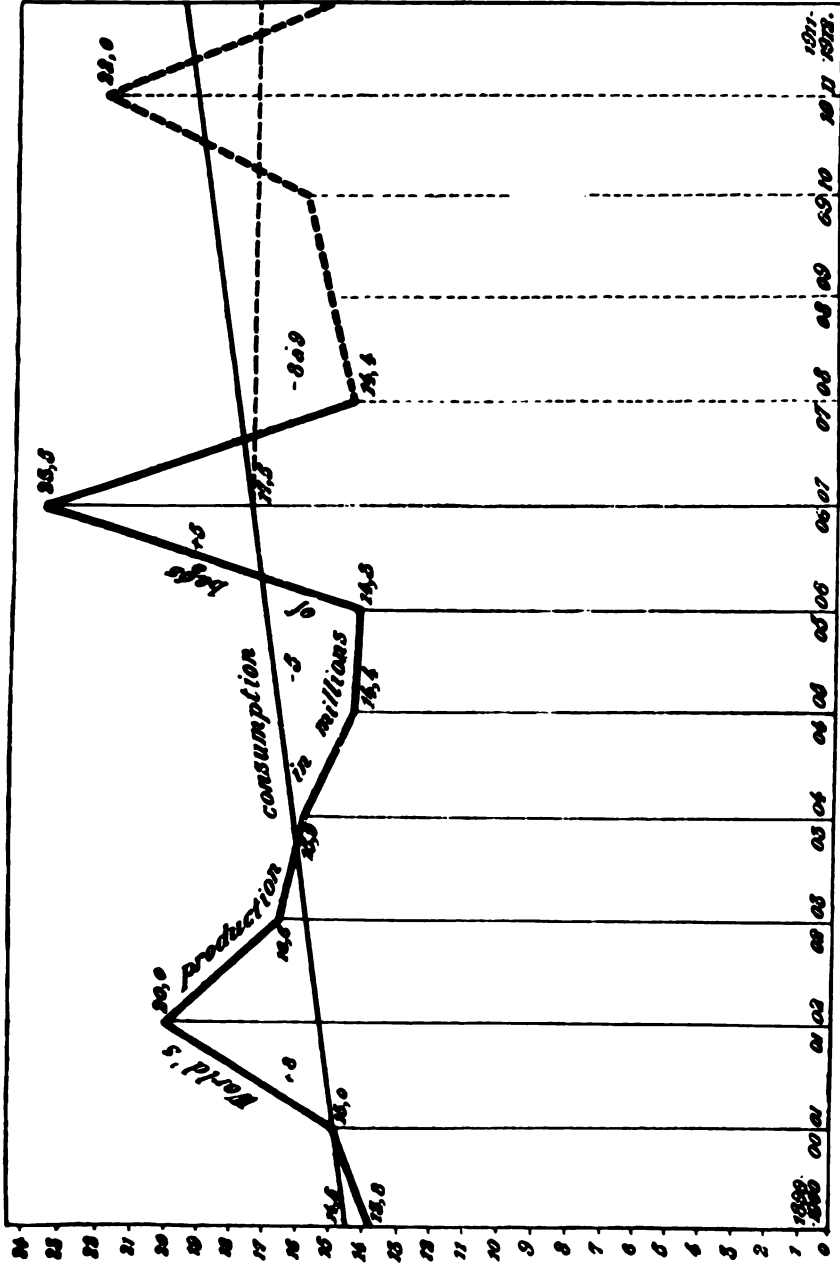


Diagram showing probable production and consumption.  
 PLATE 9.

the consumption the average prices in general have been 97 francs. It is, thus, evident that in 1911, with a stock of 4 or 5 millions and a consumption exceeding 17 1/2 millions the prices should unavoidably rise higher than the cost of production

This fact established, the wisest measures to adopt — as was actually done in Brazil — would be to withdraw from the market a part of the actual surplus and to distribute it over the four next years, in the same way as the eight millions excess in 1901-02 were divided over the four years which followed that crop. It is therefore, if we accept the simile of an old story one year of « fat kine » followed by four years of « lean kine ».

We have tried to demonstrate that in 1911 stocks will be so small that the cost price will be readily exceeded by the selling price. We think that we are even within the truth, since in our calculation we have not taken into consideration the unforeseen circumstances which might diminish the importance of the four subsequent crops. A simple meteorological phenomenon, for instance a slight frost, a cold wind, an excess of temperature or a shower at the blossoming season would be sufficient to diminish the production. So that the figures we have adopted will have a tendency to be diminished rather than increased.

Relying on the conjectures indicated, the Governments of the coffee producing States, supported by the President of the Federal Government of Brazil and by the bulk of the people's representatives, have resolved upon the valorisation of coffee. In doing this they have no other object in view but the protection of the country's agriculture by enabling the coffee trade to withstand those extensive speculations which so often have an influence on prices, and are really prejudicial to the consumer.

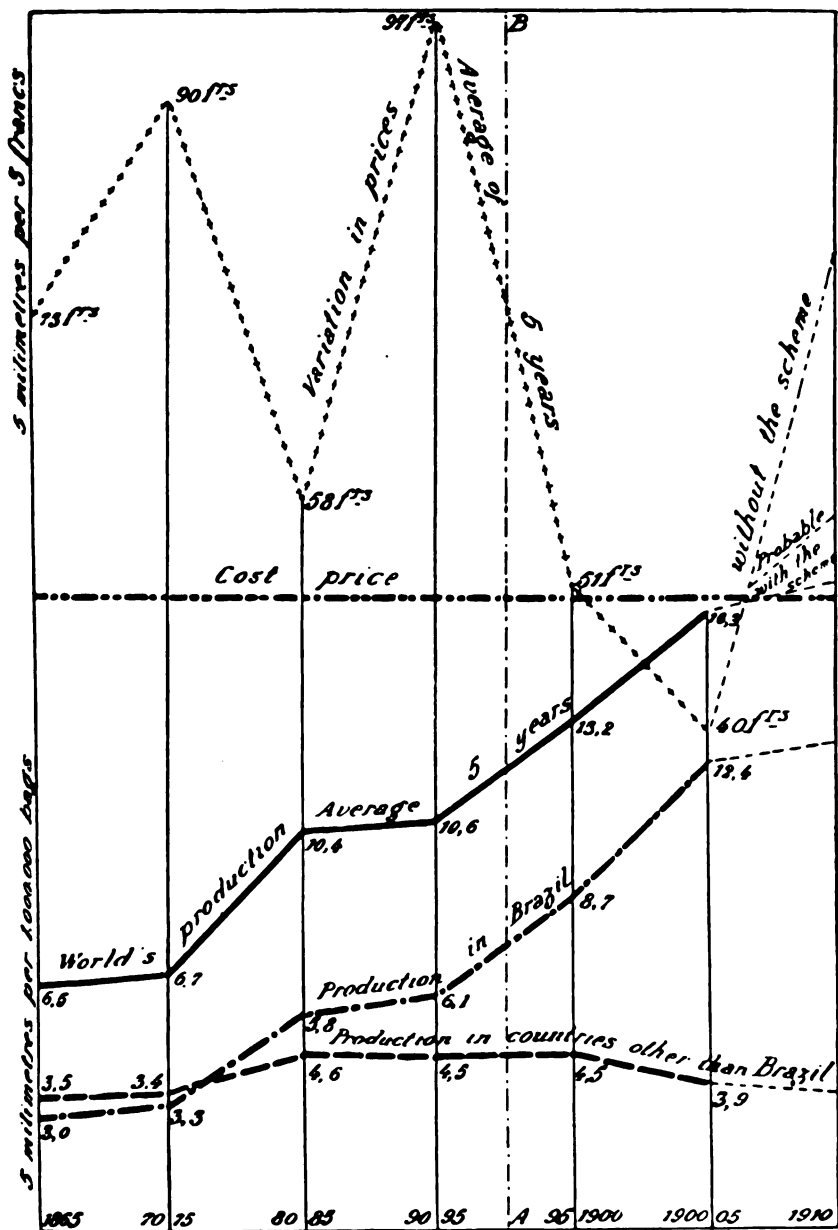


Diagram showing the average production of coffee in millions of bags and the variation in prices.



Valorisation has, besides, a tendency to level prices, and is not at all a Trust, as some people have endeavoured to convince us. The whole question has called forth a certain amount of criticism, but their authors have not taken into account some of the most important considerations affecting the subject.

Brazil really furnishes three fourths of the world's production of coffee; it is therefore in a position to dictate to the markets. This is more the case inasmuch as the other producing countries, even at prices three times higher than those actually obtained, could not increase their supplies to an appreciable extent; and, even supposing that they possessed the enormous capital and the labour necessary for such increased production, they would still be obliged to wait six years before the coffee trees yielded full crops. Added to this, the cultivation of coffee presents essential difficulties well shown in the series of photographs contained in this work.

The success of coffee cultivation depends indeed upon the possession of suitable soil, of forests which have been cleared. The coffee tree is an exacting plant, not only in regard to climate and the qualities of the soil in which it grows but also in regard to the exposure of the ground.

Brazil is the only country in the whole world which can and does supply these exigences. It is only necessary to take a map and follow on it the isothermal lines in order to be convinced of this statement. It will be seen that there are indeed some small islands and some districts on the mainland where coffee may be produced, but the remainder of the regions comprised within the productive zones consists of deserts or rocky lands, unsuited and unhealthy.

Then again, for the successful cultivation of coffee one must be able to count upon sufficient labour for the

gathering of the crops, and of capital for the erection of drying sheds, factories and workmen's dwellings. One must be able to utilize waterways and railways for the transport of the coffee, and seaports properly equipped for loading the cargoes.

### **Coffee is not the sole produce of the State of San Paulo**

It may be useful to recall that the coffee tree is a very exacting plant not only in regard to climatic conditions but also respecting the quality of the soil. Appropriately, the State of San Paulo, although it may be regarded as the veritable cradle of coffee production, yet possesses certain districts which are unsuited to the cultivation of this particular branch of agriculture, either owing to the nature of the soil or climatic conditions.

Scattered here and there in that part of the State of San Paulo which is suitable for the cultivation, we nevertheless find tracts wholly unsuitable for coffee cultivation, together about 3 million hectares in extent.

Further, that part of the State which runs along the shores of the Atlantic Ocean is not adapted for the cultivation of coffee, which can only be carried on in this State below a certain altitude. It is a source of satisfaction therefore to know that the soil of the lands, whether on the coast or in the interior, where coffee cannot be cultivated, is admirably adapted for the cultivation of cotton, sugar-cane, tobacco, maize, cocoa, cereals and fruits and also for cattle-rearing which may be advantageously carried on, as may be seen from the accompanying illustrations.

### **Eminent Brazilians who have taken up the question of valorisation of coffee**

In conclusion we can only congratulate ourselves that Brazil has consented to turn her attention to the valorisation of coffee, and we consider it a duty to reproduce in these pages the portraits of the Presidents and Ministers who have occupied themselves with the question. Among them it is only fitting that we should make special mention of M. Tibiriça, President of the State of San Paulo, who was the promoter of the Coffee Convention.

It is only right to observe that a special Committee was appointed to study this question. It was composed of the following gentlemen — Doctors A. Candido Rodrigues, Olavo Egydio de S. Aranha, A. Ramos, Ribeiro Junqueira, Rodrigues Caldas, and J. Barros Franco Junior (\*).

We must also add that the question of valorisation was carefully studied, from its very commencement, by the Paulista Agricultural Society of San Paulo (\*\*) by the Agricultural Society of Rio, by the Senate and Chamber of Deputies of San Paulo, and especially by Senator Siqueira Campos, and the Deputies H. Freitas and Veiga Filho.

In the Chamber and Senate of Brazil, the principal speakers in the debate upon the question were M. David

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(\*) The planters had also appointed a commission to study the question; of which, Messrs Faria and Jordão were members.

(\*\*) The question has also been discussed at the various Agricultural Congresses : of these the one which was held at Rebeirão Preto must not be forgotten. It was organized by the Planters' Club of Itatuna, the president of which was Dr Machado, and the secretary Dr Lara Fernandes.

Campista (deputy, and at present Finance Minister) and Senator Alfredo Ellis, etc.

\* \* \*

It will now be understood why my country has deemed it necessary to succour the coffee planters. For, if with our fertile soil, large rivers, verdant forests, blue sky, smiling meadows and flower-clad gardens, we cultivate this produce which puts so much capital into circulation on the world's markets, this produce beloved by rich and poor alike, this beverage which in future will be regarded as an incomparable antidote to tobacco, a generous adversary to alcohol, implanting courage into the human breast, it is only natural that in the interests of humanity my country has determined to stretch out a helping hand to rescue a grand and rich industrial enterprise from threatened ruin.

By a single effort Brazil has thus rendered an immense service, first of all to the producing countries, in endeavouring to secure a reasonable remuneration to a praiseworthy and laborious industry; and secondly to the consuming countries, in avoiding the withdrawal from the markets of a large portion of the supplies, a withdrawal which in the near future would have raised the price of coffee to such an extent that it would have ceased to be the stimulating, wholesome beverage of the poor, to become the delicious beverage of the rich.

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I. -- ILLUSTRATIONS RELATING  
TO THE PRODUCTION OF COFFEE  
IN THE STATE OF SAN PAULO

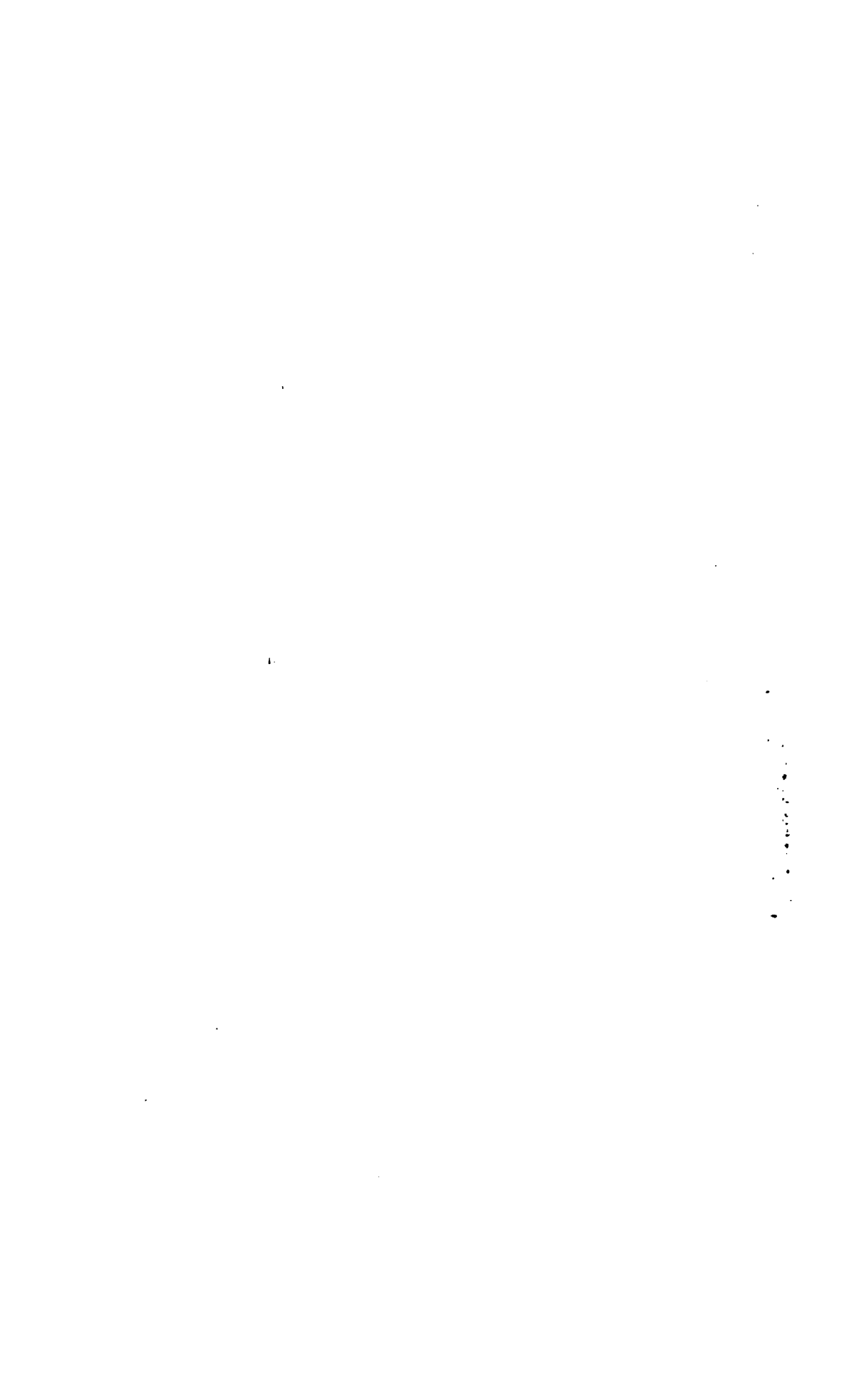




FIG. 1. — A forest in the State of São Paulo.





Fig. 2. — A "fazenda" with forest in the background.



Fig. 2. — A "fazenda" with forest in the background.



Fig. 2. — A « fazenda » with forest in the background.



Fig. 2. — A « fazenda » with forest in the background.





**FIG. 3. — Forest to be cleared and replaced by a coffee plantation.**





Fig. 4 — Clearing for a coffee plantation, with « fazenda » in the background.

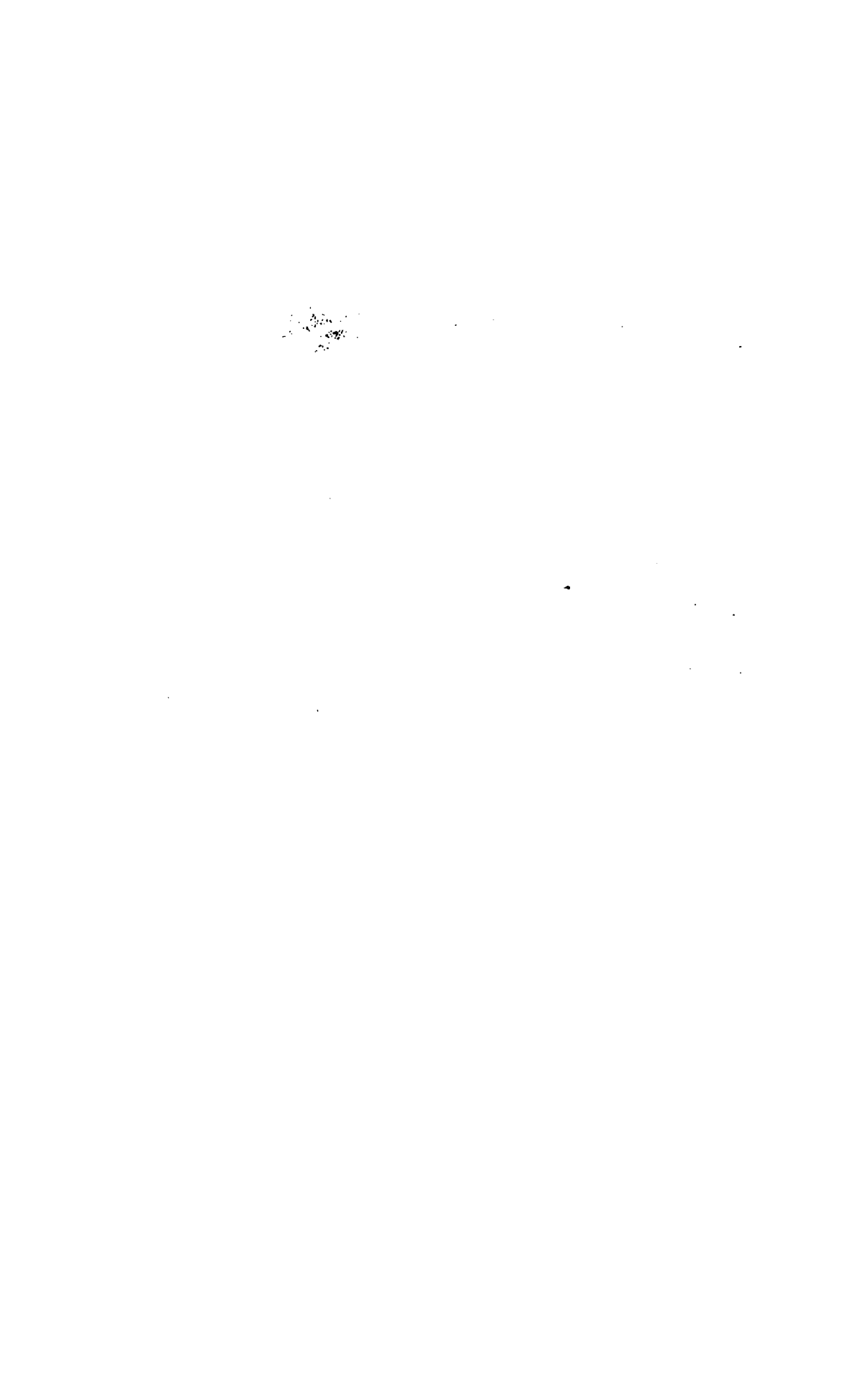




F. RAMOS. The valorisation of coffee.



FIG. 5. — A forest tree.



F. RAMOS. The valorisation of coffee.



FIG. 6. — Clearing for a coffee plantation.





FIG. 7. — A new coffee plantation. Some young trees are protected by branches ('Arapucas').





Fig. 7. — A new coffee plantation. Some young trees are protected by branches (Arapucas).







Fig. 8 New coffee plantation.



F. RAMOS. The valorisation of coffee.



FIG. 9 — Photograph of a full-grown coffee tree, uprooted in order to show the extraordinary root development.





FIG. 6. — Clearing for a coffee plantation.



F RAMOS. The valorisation of coffee.









FIG. 12. — Gathering coffee; employment of linen sheets (lençol method).





St. Gabriel, Uruguay

Colheita de Café

Ste. Paulo

FIG. 13 -- View of plantation at gathering time, with transport road and wagon.





Fig. 14. — Reception of coffee, and « rego conductor » or trench, constructed for the transport to preparation sheds.

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FIG. 14. — Reception of coffee, and « rego conductor » or trench, constructed for the transport to preparation sheds.







Fig. 14. — Reception of coffee, and « rego conductor » or trench, constructed for the transport to preparation sheds.





FIG. 1. View of plantation at gathering time, with transport road and wagon.





FIG. 16. — Preparation of the coffee by the dry method. Washing tanks for berries.





Fig. 17. — Preparation of coffee by the dry method. Drying grounds or « terreiros ».  
Drying the berries.



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Fig. 10. - Preparation of the coffee by the dry method. Washing tanks for berries.





FIG. 19. -- Preparation of coffee by the dry method. Drving grounds (terreiros).





FIG. 20. — Preparation of coffee by the dry method. Transport of the dried coffee berries from the "terreiros" to the preparation sheds for decortication and sorting.



P. KASCON. The valorisation of coffee.



FIG. 21. — Preparation of coffee by the dry method. Interior of decorticating and sorting shed.



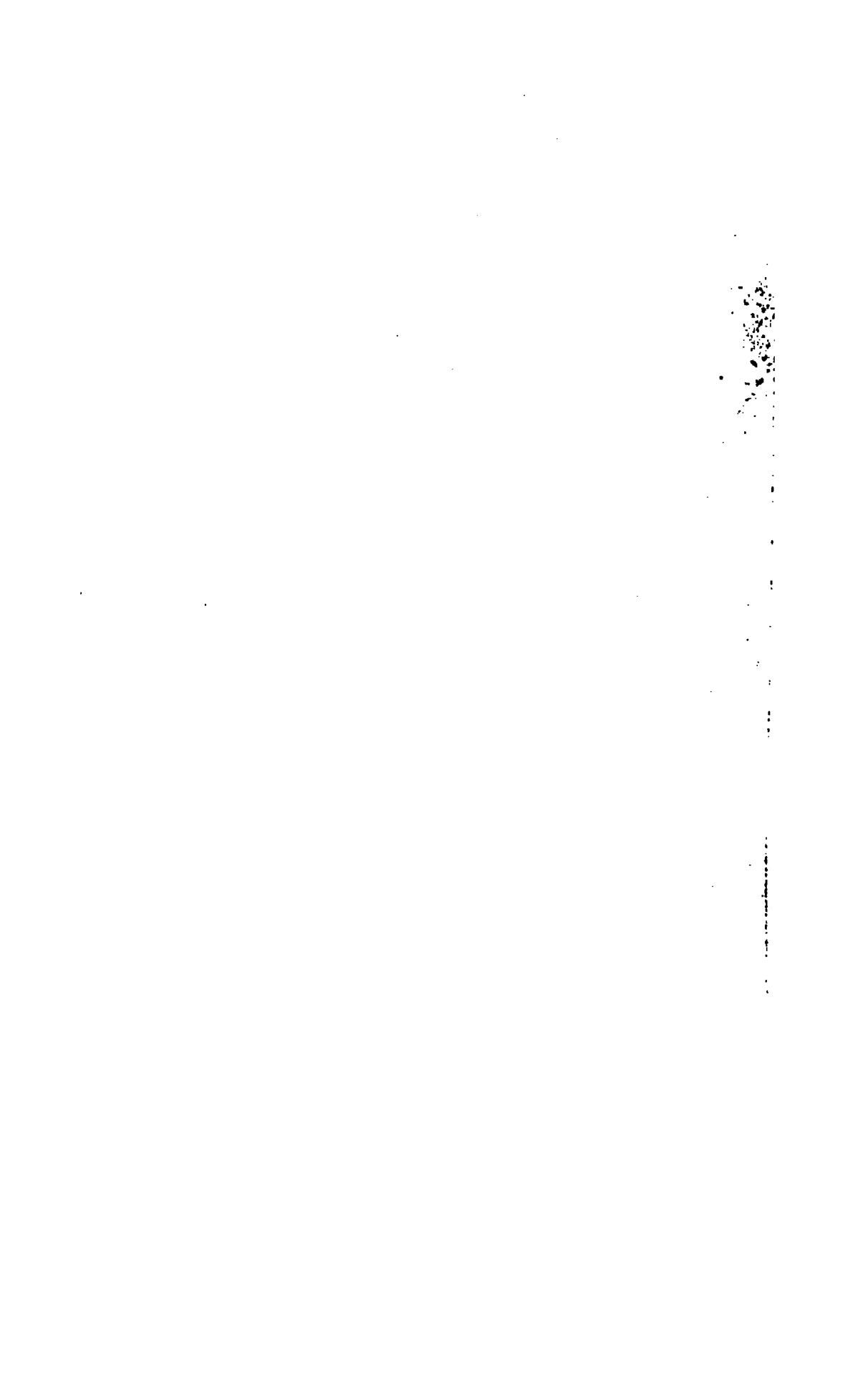




Fig. 22. — Preparation of coffee by the dry method. Machinery employed.

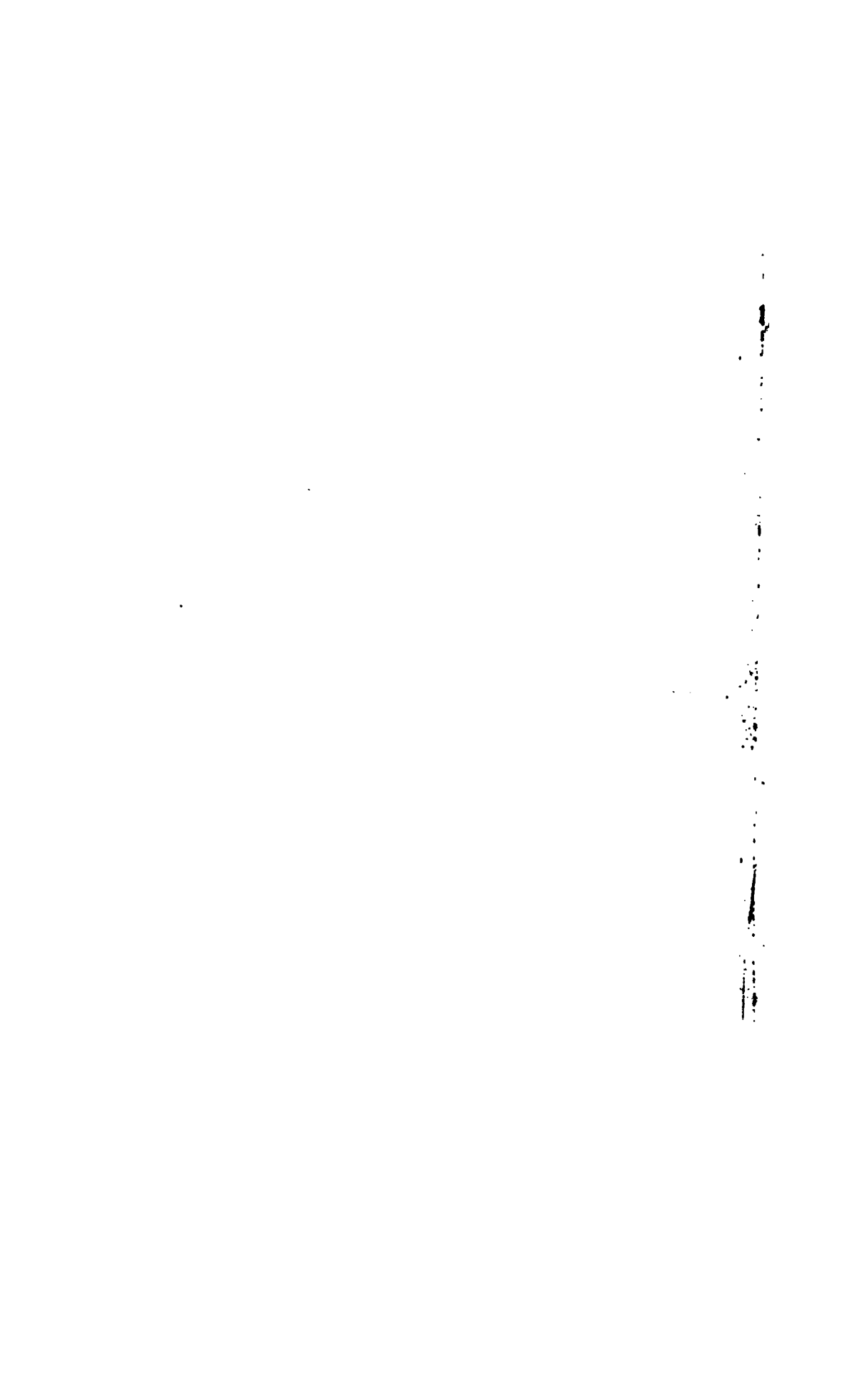


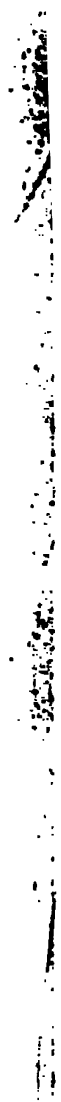


FIG. 23. Preparation of coffee by the damp method. Interior of pulping shed.





FIG. 24. — Preparation of coffee by the damp method. Pulping shed.  
Open tanks for fermentation and washing.



P. NATION. The valuation of coffee.



FIG. 25 -- Workmen's dwellings on a San Paulo coffee plantation.





Р. Магос. The valorisation of women



Fig. 26. — Workmen's dwellings on a « fazenda » or coffee plantation.





FIG. 27. — Various dwellings on a « fazenda ».





FIG. 28. — General view of a "fazenda".



*P. Hansen. The valuation of coffee.*



**FIG. 29.** — Group of San Paulo coffee pickers.





Fig. 30. — The valorization of coffee.



Fig. 30. — River Tiété in the State of São Paulo.



P. RAMUS. The valorisation of coffee.



FIG. 30. — River Tieté in the State of San Paulo.





FIG. 30. — River Tieté in the State of São Paulo.





FIG. 34. — A railway line running through a « fazenda ».







FIG. 10. A sharp curve on the Meizyan railway.





FIG. 34. -- Viaduct on the San Paulo to Santos railway.





Fig. 34. -- Viaduct on the San Paulo to Santos railway.





Fig. 35. — Railway over gorge between San Paulo and Santos.







FIG. 36. - Wayside station on the railway between San Paulo and Santos.



*r. mason. The valuation of coffee.*



FIG. 37. Cable traction on the San Paulo to Santos railway.





Fig. 38. — Coffee warehouse at Santos. Sorting.

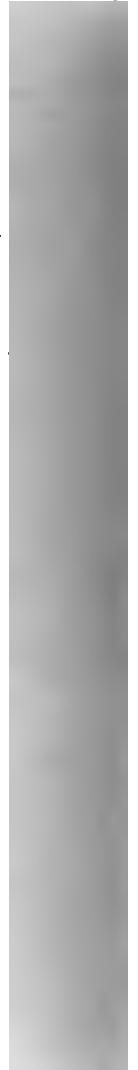




FIG. 39. — Coffee warehouse at Santos.







FIG. 40. — Coffee warehouse at Santos.





FIG. 41. — Shipment of coffee at Santos.



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FIG. 42. — Shipment of coffee at Santos.





FIG. 43. — Wharves at Santos.





II. — ILLUSTRATIONS RELATING TO  
PRODUCTS OTHER THAN COFFEE  
IN THE STATE OF SAN PAULO



F. RAUEN. The valuation of coffee



FIG. 1. — Cotton and coffee plantation in the State of San Paulo.





FIG. 2 - New cotton plantation in the State of São Paulo.





FIG. 3. — New maize plantation in the State of San Paulo.







FIG. 4. - Maize plantation in the State of San Paulo at the period of full maturity.

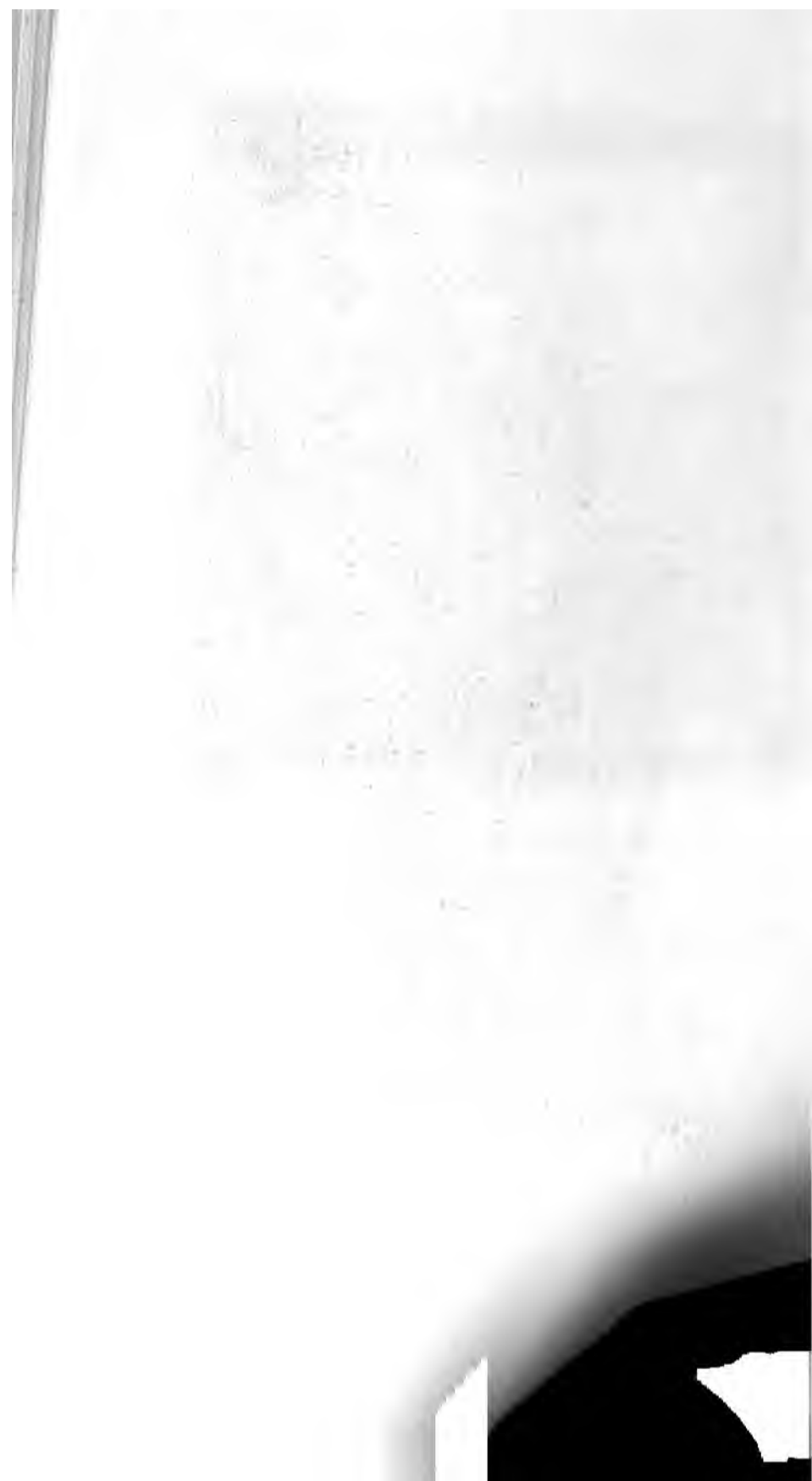




FIG. 4. — Maize plantation in the State of San Paulo at the period of full maturity.





FIG. 5. — Tobacco plantation in the State of San Paulo.





FIG. 6. — Field of sugar-cane in the State of São Paulo. Gathering the crop.



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FIG. 7. — Vineyard in the State of San Paulo.





FIG. 8. -- Pine apple plantation in the State of San Paulo.





FIG. 9. - Banana trees in the State of San Paulo.





Fig. 11. Cattle on a fair in the State of San Paulo.





P. M. A. 1890. The valuation of coffee.



FIG. 11. Cattle on a farm in the State of San Paulo.



III. — PORTRAITS  
OF SOME EMINENT BRAZILIANS



F. RAMOS. The valorisation of coffee.



FIG. 1.

His Excellency Dr JORGE TIBIRIÇA  
President of the State of San Paulo.



F. RAMOS. The valorisation of coffee.



FIG. 2.

His Excellency Dr FRANCISCO ANTONIO DE SALES  
President of the State of Minas Geraes.





F. RAMOS. The valorisation of coffee.



FIG. 3.

His Excellency DR NILO PEÇANHA  
Vice-President of Brazil; ex-President of the State of Rio de Janeiro.



F. RAMOS. The valorisation of coffee.



FIG. 4.

DR ALBUQUERQUE LINS  
Financial Secretary of the State of San Paulo.



F. RAMOS. The valorisation of coffee.



FIG. 5.

DR DAVID CAMPISTA  
Financial Minister of the United-States of Brazil.



F. RAMOS. The valorisation of coffee.



FIG. 6.

His Excellency Dr AFFONSO AUGUSTO MOREIRA PENNA  
President of the United-States of Brazil.





F. RAMOS. The valorisation of coffee.



FIG. 7.

DR CARLOS BOTELHO  
Agricultural Secretary of the State of San Paulo.



## The coming Crop

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**Report on the Estimated Coffee Crop for 1907-08. Presented on the 29<sup>th</sup> December, 1905, to Dr Carlos J. Botelho, Secretary of Agriculture for the State of San Paulo.**

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The undersigned Committee, entrusted with the duty of visiting the principal coffee-bearing districts of the State of San Paulo and estimating the prospective production of this year — as manifested in the chief centres — has the honour of submitting to you its definite Report, accompanied by statistics for the future crops and a table demonstrating the probable crop of 1907-08.

The heavy rains of the past year, and the great heat experienced all over the coffee-belt of the State of San Paulo were the factors that principally contributed to the large crop of 1906-1907, at present being exported.

All conditions necessary for the full development of vegetable life in a determined temperature prevailed during the coffee season of the year named, and especially during the blossoming period which occurred several times under the influence of cloudy skies, a calm atmosphere and a temperature neither hot nor cold.

In consequence of the large quantity of berries which the trees produced under these favourable circumstances, the trees were rendered extraordinarily weak.

As is known, dry weather at the gathering season — April, May, June and July — that is to say during the winter period, only is favourable to the coffee trees.

It hardens the shoots, which at that season have ceased their development owing to the descent of the sap, During the month of August, on the contrary, when the sap commences to ascend, a lack of rain retards the proper development of the tree. This is the critical period for new shoots, their existence being at every moment threatened, either by the rigour of the temperature or by the lack of moisture.

Exhausted as the trees were by the heavy production of 1906; without leaves to protect the buds which are in course of formation (see illustration on opposite page); and suffering also from the soil-hardening drought, which kept on until the month of November; the trees have no strength to produce the ensuing season, i.e., in 1907, When they should have been in their full period of development, preparing for their yearly evolution, they remained inactive, and scarcely bore any new leaves.

The absence of foliage is in itself a symptom of weakness, and it is noticeable that under such conditions the trees do not fructify.

The leaf is the principal intermediary between the plant and the atmosphere. Like all living bodies, a plant requires numerous and varied substances for its nutrition; some stored in the soil, others disseminated in the air. It obtains nourishment by means of its roots and leaves.

The trees which retained their last year's foliage declared their weakness by the absence of the characteristic leaf-colour which is the external sign of one of the most essential functions of vegetable life, This lack of colour revealed the absence of that essential matter in plant life, chlorophyll; one of whose principal functions is to decompose the carbonic acid in the atmosphere so as to fix or assimilate the carbon, utilizing it in the formation of new tissues and to support the old ones.

F. RAMOS. The valorisation of coffee.



FIG. 1. — Native coffee tree covered with fruit.



In these circumstances the coming crop was virtually exposed.

Such were the observations we made at the foot of the coffee-tree in the plantations we traversed in different districts. In studying coffee-production problems it would be vain and erroneous to dogmatise after a cursory inspection of the plantations.

During not less than two years it is necessary to keep the trees under regular and close observation, prior to the flowering season, in order that prophecies and forecasts with regard to crops may assume that scientific character which is necessary to inspire confidence to those interested in the cultivation of coffee and its distribution. The absence of such scientific observations would cause grave errors both in the present and in the future.

Everybody is aware that the 1906-1907 crop was larger than the average of our exportations, but very few persons were able to state the precise amount of this excess. The impression that there would be a heavy crop was so widespread among those directly interested in the trade — whether at home or abroad — that the exportation of coffee commenced on a « falling market », the *bear* influence being greater than any previously experienced in the history of coffee. If the Government of the State of San Paulo had not undertaken from the very beginning to oppose itself against this state of things prices of coffee would have fallen to a very low level indeed.

However fertile our soil may be ; however laborious our planters ; is it probable that a *record crop* of any special culture will be followed by another ? Furthermore, what happy combination of circumstances is necessary to bring about such a result ?

After a severe frost and several prolonged periods of drought we saw our production decrease year by year ;



two successive years of heavy rains were necessary to prepare the present crop. During this period climatic conditions were most propitious; the plants were fed abundantly, and in repose. After three slight crops the trees developed most admirably in preparation for the cultural season of 1905-06, the crop being gathered during the year 1906 and is now known in the trade as the 1906-07 crop.

As we know, the life of the planter is full of struggles; it is unusual to reach the gathering-time without having had to overcome difficulties of all sorts; and it is very rare, indeed exceptional, for a planter to commence cropping under such favourable conditions as those of 1906.

With regard to the coming crop, that is to say the one which will be gathered during the year 1908, it may already be affirmed that the rainy season has set in very late; and yet we are only in the month of December. Who can foresee what may happen between now and the month of April, an excessively critical period during which the formation of the berries takes place. Fifteen or twenty days of drought would suffice to cause serious damage not only to the fruit on the tree but to the organic life of the plant itself, which from this time must prepare for flowering in September and October 1907, to be cropped in 1908.

It is certain that we are confronted with a probable yield which will be a « record » among the *small* crops of the last ten years. We may moreover practically realize that the prospect for 1908 does not promise much.

One of the most important facts noticed during the crop of 1906-07 was the excessive drought which lasted during nearly the whole of the winter and the spring (1). Work in the plantations (or « fazendas ») was well advan-

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(1) The seasons in Brazil do not correspond with those of Belgium and the United Kingdom.

ced and the gathering was carried out under most satisfactory conditions. The coffee reached the market well-prepared and free from « scorched » berries. The planter carried out the gathering and drying of the coffee on the « terreiros » or drying-grounds by continuous dry weather.

Even in the extreme south, for instance at Cerqueira Cesar, Itatinga, etc., where the gathering takes place later, the planters (or « fazendeiros ») carried out the operations in dry weather and sent coffees of the finest quality to the market.

The effects of this period of prolonged drought will be felt for some years to come, as well as the heavy rainfall of previous years which brought about the record yield of 1906.

The State of San Paulo may be subdivided into four large coffee districts ; firstly, that of the north ; secondly, that which is run by the Paulista railway ; thirdly, that run by the Mogyana railway, and fourthly, that of the Sorocabana railway.

As can be readily seen from the direction of the railways, from the courses of the large rivers which traverse these districts, by the difference of latitude between the various and most important districts of intensive cultivation, it is necessary to be nearest to truth to conscientiously study the climatology, hydrography and the geology of these districts in order to understand them thoroughly. What may be safely stated with regard to Rebeirão Preto would be nonsense if applied to Piraju or Taubaté. The climatic conditions which may favour one district, may, on the contrary, prejudice another situated in a totally different latitude.

For these reasons we state — in another portion of our Report — that it is very difficult to meet with a

extraordinary combination of circumstances which would produce a crop such as that of 1906.

The coffee-growing districts, in agreement with the prosperity of the respective regions, may be divided into maximum, medium and minimum zones.

Evening for maximum zone there is Rebeirão Preto and neighbourhood, S. Manoel, Jabú, etc. We have ascertained that in these parts the actual condition of the plantations was not very encouraging, and the outlook does not in any way correspond with the deservedly high reputation of these plantations. In the Mogyana district we noticed the extraordinary circumstance that there was only one single flowering.

If we examine the trees we immediately notice, how small this flowering must have been, for the fruit-clusters do not contain more than three, four or five berries; and rarely nine or ten.

Although they show more vigorous growth, and their sap may be more abundant after the rain, the trees are far from being able to recover from the effects of over-production and drought. The flowering which took place in October was good, but owing to the weakness of the trees which were deprived of elements necessary to vegetable life; only one third of the blossom fructified.

At Villa Romão, which may be called the heart of Rebeirão Preto, two plantations scarcely give any hope of an average crop, and even this will yield only half of that of 1906.

The « fazenda of Guatapara » one of the finest in the whole of the State, which during a period of six years produced an average of 120 to 180 arobes per 1000 trees, will in 1907 scarcely furnish more than 50 arobes per 1000 trees. One arobe is equal to 15 kilogrammes.

The Department of Sertãozinho, of all those in the









State, was that which suffered least from the drought. The major part of the coffee trees there have a healthy aspect, especially those in the plantations of Vassoural, St. Martinho, and Agua Vermelha, which are a portion of the Dumont plantation : in the latter the trees are in the very best condition.

This year's production was everywhere moderate and cannot reach more than half of 1906.

The other plantations of the same district will produce very little. At Cravinhos the October flowering was insignificant, and only in the new plantations fruit formed; whereas in the old plantations no fructification took place at all.

This district is one of those which has suffered most from the heavy production and the drought, and the coming crop will be exceptionally small.

At S. Simão the plantations are in a bad condition and will scarcely give any yield.

Of all the districts where the production is very large Jahú is certainly one of the richest in the whole State.

The extraordinarily large crop of this year has left the plantations in such a state of exhaustion as to require a long period of rest.

At Bicas de Pedras, where the plantations are new, the situation is a little better. But, in the neighbourhood of Pouso Alegre, Boa Vista and principally at Banharão, the plantations are exhausted and need at least two years to recuperate.

Among the maximum districts S. Manuel is the one in which the growth shows the greatest exuberance. The fact that it is situated more to the south exempts it from the effects of the long-continued drought; but, even in this locality the yield will be a little less than half the



quantity of this year's crop. In 1901 the yield in this department as in the whole district of Sorocabana, was better than that of 1906 (1).

Such then is the situation in all the maximum producing districts, consequently those which are of the most importance in our yearly exportation.

*Let us now examine the situation of the medium zones.*

In 1906 the medium producing sections had more than an average crop, resulting in the enfeeblement of the coffee trees.

At Campinas the drought lasted until the end of October. This is one of the sections where the yield of 1906 exceeded all expectations, this large production was succeeded by a prolonged drought, completely exhausting the trees.

At Amparo, Pedreira and Serra Negra the situation is identical with that at Campinas.

During the flowering the coffee trees are enfeebled owing to the heavy production and the prolonged drought from which the trees suffer : only one quarter of the blossoms turns into fruit.

At São Carlos, Dourado, Ribeirão Bonito, Annapolis and Descalvado the conditions of the formed berries is very bad on the whole. The yield will be small owing to adverse circumstances. The lack of production in those districts will make itself felt during no less than two or three years, a delay necessary to the plantations for recuperation.

In these old districts where the production is calculated more by the number of trees than by the production per

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(1) It should be noted that the exportation of the 1901 crop was made in two years owing to the bad state of this branch in 1901.

tree this deficit will have a very palpable effect on the total quantity exported by the State.

At Jaboticabal, Araraquara, Mattão, Ribeirãozinho and Bebedouro the prospect is bad.

At Santa Rita do Passa Quatro the plantations are in an unsatisfactory condition, and the coming crop will be insignificant.

At Araras, Pirassununga, Santa Cruz das Palmeiras and Casa Branca the crop will not amount to a third of that of 1906.

Mocóca, owing to the fact that it is situated close to the south of Minas, enjoys a milder climate and has not yet experienced any drought. The rainfall in October and November did much good to the plantations here, which show a fresh and vigorous foliage. The flowering was abundant but had suffered from the cold winds. The yield may be estimated at 32 arobes per 1000 trees.

Among the minimum zones there is the district of Norte where for some years past the plantations have been declining.

We also include Capivary, Itú, Piracicaba, Rio das Pedras, São Pedro, among those localities which will not give more than one half of their ordinary yield: and in some instances the third of their annual crop.

The districts within the zone of Sorocabana, such as Tiété, Botucatú, Avaré, Itatinga, Pirajú, Agudos and Baurú are very promising, and may give a yield of about one half of 1906-07.

In this rapid enumeration of the prospects of these districts we do not find any circumstances favouring a small average production.

All the facts noticed, all the climatic phenomena, sufficiently prove that the crop of 1907-1908 will be small.

Before concluding, it is our duty to mention one fact

of great importance not only relative to the crop of the current year but, in addition, to those that will follow. We will speak about the pruning of the trees practised on a large scale in all the districts of the State.

There are some fazendeiros who prune carefully and skilfully, but a large number — who cannot command an experienced staff — reduce their plantations to a real wreck. In many cases this has a negative result. The trees are practically destroyed and the crops are endangered for several years. We have seen pruning on certain plantations where the « lopped » branches bore coffee berries.

This devastation, repeated in several plantations, cannot fail to contribute to the diminution of the quantity of coffee available for exportation.

The Committee calls attention to this point because it is a question affecting the State's wealth. It is only just, however, to note down our impressions as to the careful manner in which as a general rule our plantations are attended to.

In the most remote parts of the State we noted that modern tools and implements are being introduced, and more scientific methods of culture are being adopted.

This result is undoubtedly owing to the unvarying and clever propaganda made during the past three years by the Secretary of Agriculture.

Further on we give the statistics which we have obtained and controlled in our journey through the coffee-districts of the State.

From this careful study we conclude that, owing to the causes and facts already mentioned, the crop of 1907-08 will be restricted in quantity. We do not anticipate that more than five million bags will be gathered in all the

departments and in certain other neighbouring districts of Minas.

The partial Reports which we have had the honour of presenting to Your Excellency show details of our observations and the facts upon which our estimates have been based. We believe it our duty to recommend the perusal of all these documents, which are rigorously exact, in order to understand the basis upon which we have relied to arrive at the following definite conclusion :

The crop of 1907-08 may be estimated at 4,936,260 or at a maximum of 5,000,000 bags. Anticipation of reduced crop in 1908-09 owing to weakness brought about by the drought and the heavy crop of the present year.

*San Paulo, 29<sup>th</sup> December, 1906.*

JOAQUIM LOURENÇO FRAGA.  
LUIZ A. ALMEIDA.  
NABOR JORDAO.

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N. B. — The Santos Chamber of Commerce showed its appreciation of this Report by thanking Mr Luiz A. Almeida, one of its members who was also a member of the Commission entrusted with the estimation of the 1907-08 crop. (See *Bulletin of the Association* .

## Estimation of 1907-1908 yield

### I. — Paulista District

<b>Municipalities</b>	<b>Total in arrobes</b>
Campinas . . . . .	600.000
Limeira . . . . .	200.000
Rio Claro et Annapolis . . . . .	460.000
São Carlos . . . . .	480.000
Araraquara . . . . .	330.000
Mattão . . . . .	350.000
Jaboticabal . . . . .	250.000
Monte Alto . . . . .	230.000
Ribeirãozinho . . . . .	230.000
Bebedouro e Barretos . . . . .	340.000
Dourado . . . . .	100.000
Boa Esperança . . . . .	200.000
Ribeirão Bonito . . . . .	180.000
Boa Vista das Pedras e Ibitinga . . . . .	190.000
Dois Corregos . . . . .	100.000
Mineiros . . . . .	100.000
Brotas . . . . .	250.000
Jahú . . . . .	650.000
Bocaina . . . . .	280.000
Barery . . . . .	200.000
Pirassununga e S. C. Conceição . . . . .	190.000
Santa Rita do P. Quatro . . . . .	260.000
Descalvado . . . . .	300.000
Santa Cruz das Palmeiras. . . . .	230.000
Pitangueiras . . . . .	250.000
Porto Ferreira . . . . .	80.000
Araras e Leme . . . . .	280.000
Pederneiras . . . . .	80.000
Jundiahy . . . . .	200.000
Itatiba . . . . .	150.000
<b>Total of the district</b>	<b>7.740.000</b>

## II. — Mogyana District

<b>Municipalities</b>	<b>Total in arrobes</b>
Ribeirão Preto . . . . .	1.260.000
Sertãozinho . . . . .	650.000
Cravinhos . . . . .	375.000
S. Simão . . . . .	350.000
Tambahú e Casa Branca . . . . .	360.000
Mocóca . . . . .	300.000
S. José do Rio Pardo . . . . .	250.000
Caconde e Cajurú . . . . .	200.000
Santo Antonio da Alegria e Ituverava . . . . .	100.000
Franca . . . . .	350.000
Batataes . . . . .	400.000
Nuporanga . . . . .	200.000
Jardinópolis . . . . .	200.000
Mogy-Guassú e Mirim . . . . .	230.000
Itapira . . . . .	200.000
Amparo . . . . .	500.000
Pedreiras . . . . .	90.000
Serra Negra . . . . .	150.000
Socorro . . . . .	140.000
Espirito S. do Pinhal . . . . .	280.000
São João da Boa Vista . . . . .	220.000
<b>Total of the district</b>	<b>6.805.000</b>

## III. — Sorocabana District

Tieté e Pereiras . . . . .	260.000
Botucatu . . . . .	450.000
São Manuel . . . . .	900.000
Lenções, Agudos e Baurú . . . . .	400.000
Tatuhy e Itapetininga . . . . .	60.000
Itatinga . . . . .	130.000
Avaré . . . . .	250.000
Pirajú . . . . .	240.000
Santa Cruz de Rio Pardo . . . . .	250.000

<b>Municipalities</b>	<b>Total in arobes</b>
Itú, Cabreúva e Montemór . . . . .	230.000
São Pedro. . . . .	100.000
Fartura . . . . .	150.000
Capivary e Indaiatuba . . . . .	270.000
Piracicaba e Rio das Pedras . . . . .	280.000
<b>Total of the district</b>	<b>3.970.000</b>

#### IV. — São Paulo Railway District

Bragança . . . . .	240.000
S. A. da Cachoiera e Nazareth . . . . .	140.000
Curralinho . . . . .	50.000
Norte de S. Paulo . . . . .	300.000
<b>Total of the district</b>	<b>730.000</b>

V. — Minas coffees . . . . . 500.000

### RECAPITULATION

I. — Paulista District . . . . .	7.740.000
II. — Mogyana District . . . . .	6.805.000
III. — Sorocabana District . . . . .	3.970.000
IV. — São Paulo Railway District . . . . .	730.000
V. — Minas coffees . . . . .	500.000
<b>Total in arobes of 15 kilos</b>	<b>19.745.000</b>
<b>Total in bags of 60 kilos</b>	<b>4.936.250</b>

# APPENDIX



## **Brazilian Coffee PRIZES OBTAINED**

At the St. Louis Exhibition of 1904, Brazilian coffee was awarded the following prizes :

GRANDS PRIX . . . . .	5
GOLD MEDALS . . . . .	62
SILVER MEDALS . . . . .	70
BRONZE MEDALS . . . . .	91
TOTAL	228



FIG. 1. — Examining samples of Brazilian Coffee in the Brazilian Pavilion of the  
St. Louis Exhibition in 1904.

# Statistics of the State of San Paulo

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## I. — Coffee production

The production of coffee in the State of San Paulo during the last six years, in round figures, was as follows :

For the year	1901-1902	12,500,000 bags.
"	" 1902-1903	5,800,000 "
"	" 1903-1904	6,400,000 "
"	" 1904-1905	7,450,000 "
"	" 1905-1906	6,080,000 "
"	" 1906-1907 <sup>(1)</sup>	14,000,000 "

## II. — Exports

The exports were as follows :

DATE	BAGS	VALUE IN FRANCS
1901	9,613,080	401,128,000
1902	8,714,182	334,545,000
1903	7,904,305	298,788,000
1904	6,571,500	322,121,000
1905	7,453,752	350,304,000
1906 <sup>(2)</sup>	10,106,257	504,025,000

<sup>(1)</sup> Estimation.

<sup>(2)</sup> *Brazilian Review* of 29-1-07.



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<sup>(1)</sup> Estimation.

<sup>(2)</sup> *Braslian Review* of 20-1-07.

The additional charge of 3 francs during the first two months of its application, i. e. in December and January last, produced the following amounts :

December 1906	3.300.000	francs
January 1907	2.300.000	»
Total (2 months)	5.600.000	francs

See *Boletim da Associação Commercial de Santos*, N<sup>o</sup> 147 and 152.

If this surcharge had been applied during the preceding six years, the amounts produced would have been, in round figures, as follows :

For 1901	Frs	28.800.000
» 1902	»	26.100.000
» 1903	»	24.000.000
» 1904	»	19.500.000
» 1905	»	22.300.000
» 1906	»	30.300.000
Total	Frs	151.000.000

The average production of the three coffee producing States, San Paulo, Minas and Rio being about 11 1/2 million bags, the surtax would have produced about 210,000,000 francs during the same period.

### III. — Finance

From the report presented to Mr Tibiriça, President of the State of San Paulo, by Mr Albuquerque Lins, Secretary of Finance, we extract the following figures (rate of exchange Fr. 1.70 per 1000 Reis).

Balance at the disposal of the State (1905) :

In the Treasury .	Frs 3.590.700
In Foreign Banks	Frs 23.883.900
Total	Frs. 27.474.600

In addition the State had to its crédit

the sum of . . . . .	Frs 38.611.250
of which about . . . . .	» 12.167.200 debt
of the Federal Union, and . . . . .	» 26.444.050 debt
of the departments, loans granted to them by the State	
of San Paulo for their public works.	

The State of San Paulo is one of the richest in Brazil. Its population amounts to about 3 millions inhabitants on an area of 290.876 square Kilometres, which are intersected by 4.200 Kilometres of railways, more than one fifth of which belongs to the state.

The situation of the San Paulo state from a financial point of view is one of the best, its assests on the 31<sup>st</sup> of December 1906 (private or fiscal property) were 565 millions 450.000 francs and its liabilities 390.250.000 francs only; viz : a difference of 175.200.000 francs in favour of the assets.

From a commercial point of view its situation is likewise very interesting.

In comparing the official figures of the imports and exports during the years 1904, 1905 and 1906, it is easy to give an account of a constantly advancing progression :

	1904	1905	1906
Importations	111.840.800	128.799.000	160.090.600
Exportations	325.757.700	393.742.300	507.047.000

The result is that the commercial balance shows in favor of the country by 213.946.900 francs in 1904; 234.943.300 francs in 1905 and 346.954.490 francs in 1906.

#### IV. — Real Estate and Debt

The real estate belonging to the State of San Paulo is valued at (rate of exchange Fr. 1.70 per 1000 Reis) :

Sorocabana Railway	Frs 107.914.645
Other properties . .	» 136.000.000
Total	<u>Frs 243.914.645</u>

It must be observed that the Sorocabana Railway produced in 1905 (net income)	Frs 6.052.000
» 1906                   »	» 9.800.000

The external debt of the State of San Paulo, including that of the Sorocabana Railway, was £ 6.303.200, the payment of interest and the redemption of bonds being regulated in a very careful manner.

The internal consolidated debt does not exceed £ 200.000.

#### V. — Balance Sheet

The balance-sheet of the State of San Paulo for the year 1905 is as follows :

Receipts	Frs 114.489.200
Expenditure	» 82.248.500
Balance	<u>Frs 32.240.700</u>



V. The last message of the new President Dr. Albuquerque Lins shows that during the year 1907 the incomes of the State have amounted to 106.200.000 francs (allround figures) and the expenditures <sup>(1)</sup> to 109.600.000 francs.

The official amount of the exportation in 1907 is of 601.000.000 francs, whereas the importation during the same period amounts to 215.000.000 francs, leaving therefore a balance of 386.000.000 francs in favour of the State. The commercial fluctuation of the port of Santos shows an excess of 115.000.000 francs on the year 1906 and of 285.000.000 francs on the year 1905. There are 585 Kilometres of metallic-road in construction, out of which about 300 Kilometres belonging to the State.

The overtax of 3 francs has produced about 36.000.000 francs.

The exterior and interior debt of the State is hardly of £ 9.503.000.

At the moment when has been voted the law which will regularize the plantations in the State of São Paulo there were :

already planted. . . .	685.000.000 coffee trees
of which about . . .	140.000.000        "
of which the age was of _____	
from 1 to 4 years and	545.000.000 coffee trees

in full production.

We may therefore say that before the law, the average

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(1) Into the expenditures are included those for the laying of 51 Kilometres of Railway, the new services for the victualling of water and the sewers, the estates of the colonization etc. which represent in reality an augmentation of the public richness. When deducting the amount of these works, it is seen that the budget balances with a great excess in favour of the State.

the production, seeing that a monstrous crop has been arrived at.

The above figures prove that the average of the State is in reality of abt. 9.000.000 bales of 60 Kilos. Since more than 1 ½ year ago we have in this lecture nearly established this figure which practice has just confirmed.

Therefore in order that the State of São Paulo may produce a large crop, it is necessary at least that the anterior crop were far below the average.

Thus, in order that the crop of 1909/10 be a crop of 12 millions, it is necessary that the current crop does not exceed 7.000.000.

If the actual crop yields 9.000.000, the following will not exceed 10.000.000. That is the reality.

The above figures prove therefore that the large crop of 1906/7 is not due principally to the augmentation of the number of trees but rather to the exceptionally favourable climatic conditions which do not come forward but once during more than 10 years.

One fact explains better the verity as to this.

There exists within the zone of the Paulista Railway a planter, who since 10 years has not augmented his culture of coffee. During 10 years he has cultivated it in the same manner; his average was of about 240 bales. In 1906 the same owner had the same number of trees, handled in the same manner, of which he has obtained 1.100 bales.

The consequence thereof has been : the monstrous crop has so much exhausted the trees that many of them died, a great number has had to be cut, and the others are so weakened that the average of the estate has decreased far below the anterior, i. e. of 240 bales. It would have been better for the unfortunate planter not to have had such a large crop. A great planter of the State has said the following : « Since more than 40 years that I am a planter, I have

never seen such favourable climateric conditions combined with exceptional others (four years of rest, care, etc.) as those which have produced the large crop of 1906/07. I believe I will not see them again ».

In fact, he who knows the culture of coffee, also knows that in order to have a large crop, as in 1906/07, several years of rest, two years of abounding and regularly distributed rains in summer; dry and very favourable winters; a soft temperature, and very agreeable and very uniform days during the flourishing in all the State are wanted. No rain, no wind, no great warmth during this critical period. After the flourishing, no great changes of temperature, no heavy rains, no cold winds. During the period of maturation, no dryness, a very normal number of rainy days, and well handled trees, etc. During the crop, good weather is always required, etc.

We have seen a sudden change of temperature during the flourishing destroy the whole crop.

A little rain during this period is sufficient to considerably reduce the crop <sup>(1)</sup>.

*Upon the whole*, we have just established that the average crop of the State of São Paulo during the five last years should theoretically be of 9.100.000 bales.

But practice has given 8.680.000 bales, in reality 5 % less than theory.

We have shown that after 1907 the calculated average production had to be of 9.600.000 bales of 60 Kilos. If therefore we take 5 % off this figure, to have the practical production, we would come to 9.100.000 for the practical average production.

It is easy to understand that the difference between the

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<sup>(1)</sup> It is known besides that after a large crop the floral branches die and that several years are wanted before others push.

theoretical production and the practical production will augment in proportion that the trees become older.

But we are going to be more optimist and will admit that the practical average production of the State from to-day will be of 9.300.000 bales, which nearly represents the average between the calculated average production and the practical average production.

The annual and average world production can be established as following (in bales of 60 Kilos) :

Average production (exagerated) of São Paulo	9.300.000
»                   »                   Rio and Minas	3.400.000
»                   »                   Bahia Victoria	623.000
»                   »                   of the other countries	4.000.000
	<hr/>
Total	17.323.000

We think however that the average will be below 17.000.000 bales. It is untrue that many trees were planted after the law had been voted, in order to increase this average.

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## CONSUMMATION

Let us see now which is the consummation.

According to the statistics of the Syndicate of the Coffee trade of Havre, made up with the co-operation of Mr. Lanneville, the augmentation of the world consummation *since 1901* is of 1 ½ %. But according to the same statistics, when taking the average of the last five years anterior to 1901, and when comparing them with the average of the actual last 5 years, we find that the augmentation has been of about 3 % i. e. of 450.000 bales yearly.

Follows the proof :

YEARS.	CONSUMMATION BALES OF 60 KILOS.	
1903. . . . .	16.525.000	
1904. . . . .	15.950.000	
1905. . . . .	16.015.000	
1906. . . . .	16.845.000	
1907. . . . .	16.945.000	
Consummation : Total :		82.280.000
Average consummation of the		
last 5 years . . . . .	16.460.000	16.460.000
Average consummation from 1896 to 1900		13.250.000
Total augmentation		2.210.000
Average augmentation of the consummation since		
1796-1907		
per year <sup>(1)</sup> . . . . .		460.000

To be more pessimist we shall admit as actual average, the average between 1 ½ and 3 ½ %, we will arrive at 2.25 %.

Let us take even only 2 % for the annual augmentation.

To ascertain the actual average consummation, must be added to the average of 16.460.000 of the last five years, since 1905, the 2 percent of annual augmentation.

We will then have the following table (in allround figures) :

<sup>(1)</sup> REMARK : When taking the average of the consummation from 1899 to 1903 and comparing same with the average between 1903 and 1907, we will still find an augmentation of 2 ½ per cent.

## AVERAGE CONSUMMATION SINCE 1905

YEARS.	CONSUMMATION IN BALES OF 60 KILOS.	
1905 . . . . .	16.460.000	
1906 . . . . .	16.800.000	
1907 . . . . .	17.100.000	
1908 . . . . .	17.450.000	17.450.000
	Production. .	17.323.000
	Deficit. .	127.000

According to what we have just established, even with an exaggeration in the calculation of the production, even with a reduction in the augmentation of the average consumption, the actual average production, of which the tendency is rather to reduce, is already inferior to the consumption.

From now the stocks are going to be reduced according to the sum of the terms of an arithmetical progression and of which the reason is of about 300.000 bales.

This is the theoretical calculation.

But we have remarked that in practice the reduction will be much greater.

Therefore, whatever be the reality, the stocks of coffees of the Gouvernement of the State of São Paulo have a tendency to an augmentation of values, in proportion that the years follow one another.

We must also remember that in 1901 and 1902 the consumption was not yet of 14 millions say 28 millions of bales in two years, when the world production has amounted to about 36 1/4 millions (same period).

There will therefore be an excess of about 30 % on the consumption.

In 1906-08 the consummation was already of 17.000.000 say 34 millions in 2 years, when the production has amounted to 38 ½ millions. The excess on the consummation is not more than about 11 ⅞%.

It is therefore beyond doubt that the period of over-production has ended.

## VI. — Brazilian Exports and Imports

In conclusion we herewith add the statistics of Brazilian exports and imports during the last four years, in allround figures (exchange Frs. 1.70 per 1000 Reis); as well as the amount at the disposal of the Brazilian Treasury.

### Exports :

1904	1905	1906	1907
985.975.000	1.116.345.000	1.326.475.000	1.354.425.000

### Totals of Brazilian Imports and Exports :

1904	1905	1906	1907
1.653.985.000 (1)	1.932.585.000	2.156.575.000	2.377.612.000

The amounts at the disposal of the Brazilian Treasury, in gold, short-dated bills and consols, deposited either into the Treasury of Brazil or into English banks were (31 March 1908) as follows :

£ 12.500.669 . . . . .	Frs	312.000.000
Silver, nickel, etc. . . . .	»	128.000.000
		<hr/>
Total	Frs	440.000.000

---

(1) See the « *Economiste Européen* », N. 785.

The Conversion Funds as received :

until the end of 1907) . . . . .	£ 7.108.151
and paid . . . . .	855.501
leaving a balance of . . . . .	£ 6 253.651

VII. — **Share of the State of São Paulo in the  
export and import trade of Brazil**

Lastly, it appears interesting to us to show the position held by the State of São Paulo in the Brazilian exports and imports, and in the following table we indicate the percentages in the entire commerce of Brazil.

**Share of São Paulo in Brazilian exports and imports**

Years	IMPORTS	EXPORTS
1902	20.40 %	40,— %
1903	23.33 "	38,12 "
1904	27.25 "	33,— "
1905	27.25 "	32,— "
1906	27.25 "	32,50 "
1907	27,— "	40,— "
1908	27,— "	45,— "
<b>average</b>	25,— %	37,02 %



Between 1902 and 1907 the State of São Paulo recorded :

An import value of. . . . .	£ 34.316.940
An export value of. . . . .	£ 97.212.003

showing a balance in favour of the State of £ 62.895.163  
that is to say, a yearly average of £ 10.500.00 or 262  
million francs.

Coffee represents rather more than fifty per cent of the  
Brazilian exports. This clearly shows that the question  
of coffee not only affects the producing States, but is one  
of national interest.

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(\*) This photograph was kindly lent by M. Misson ; it was reproduced in the monthly Journal of the Gembloux Association of Engi-

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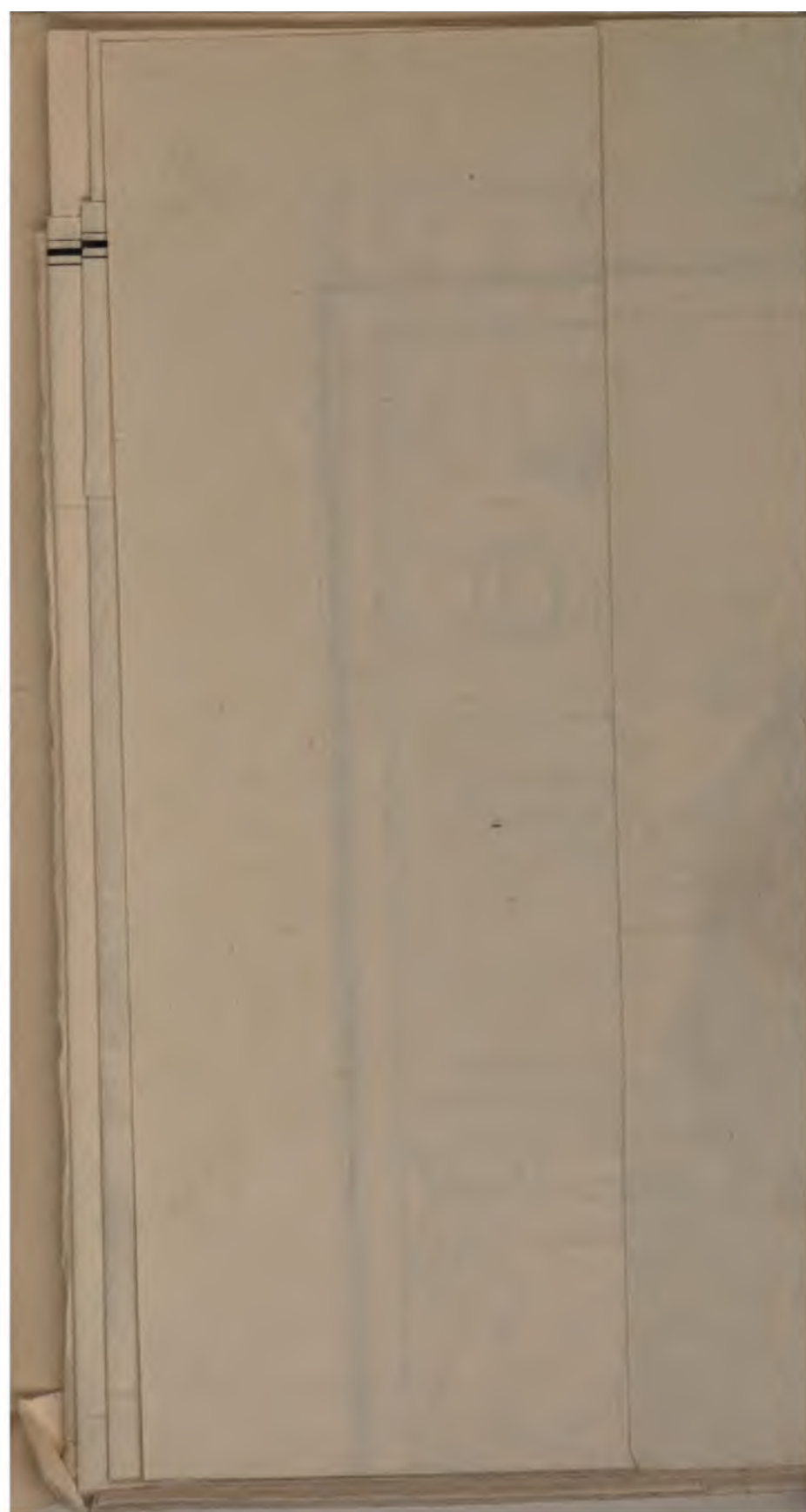
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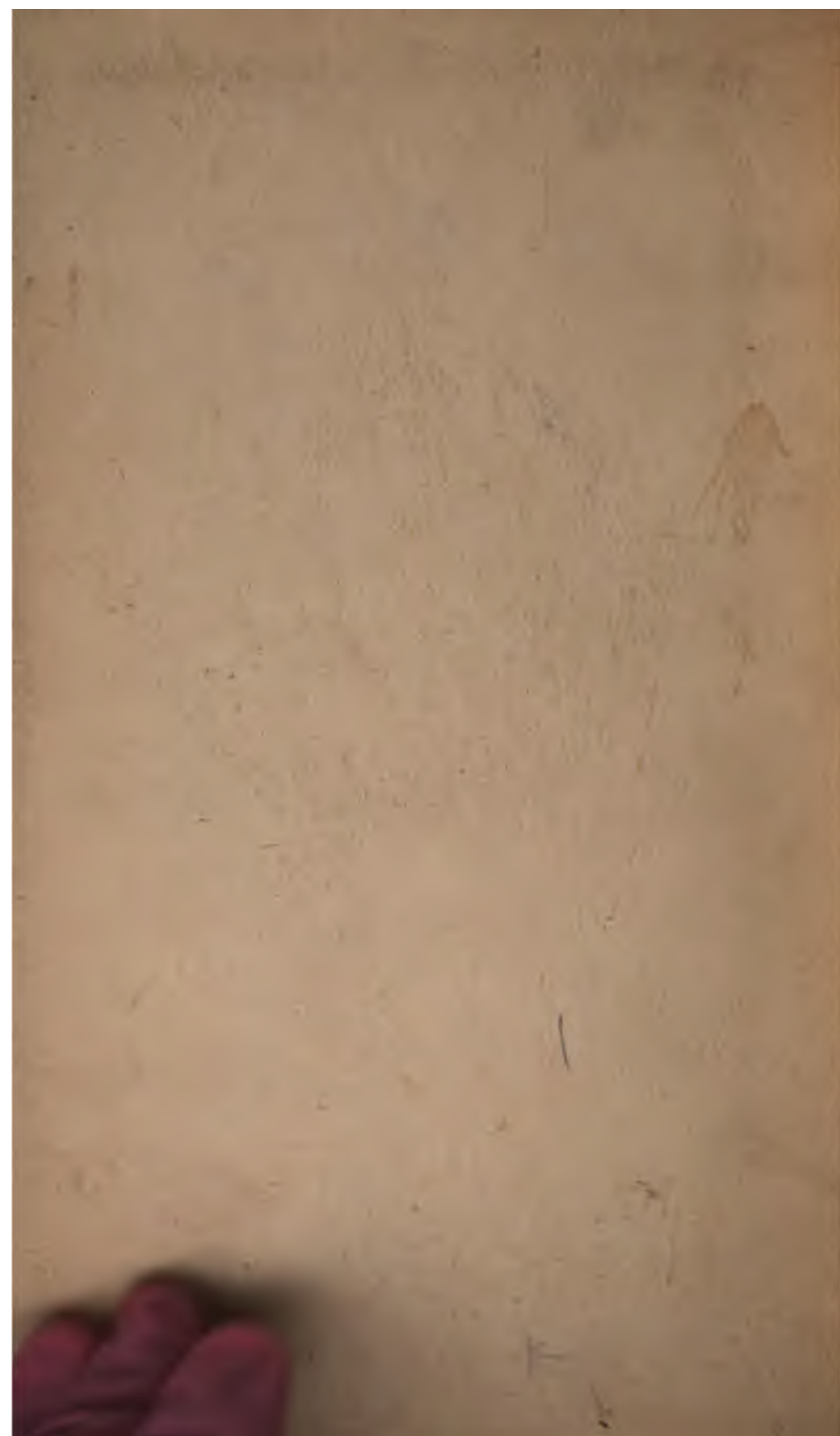
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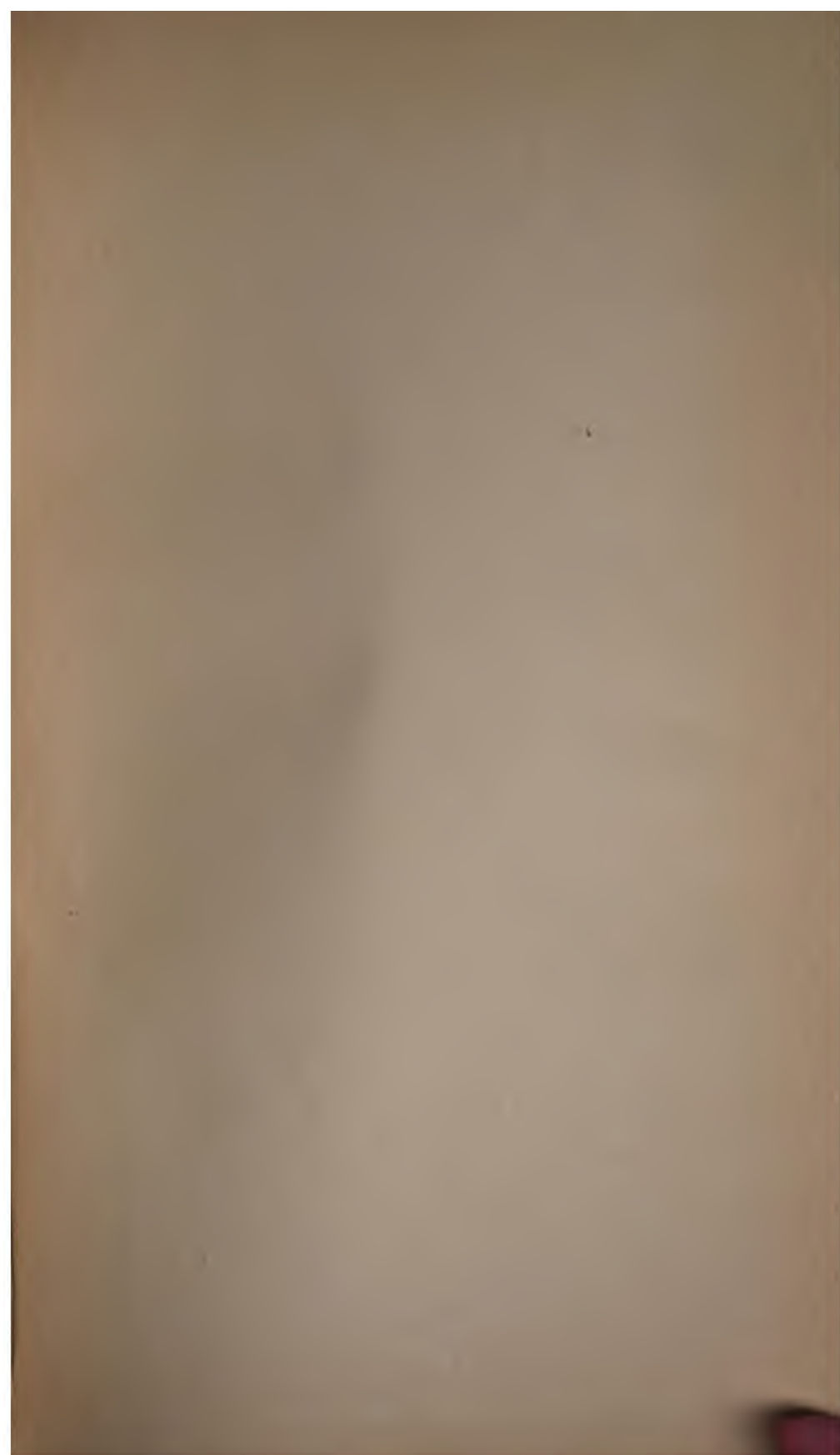


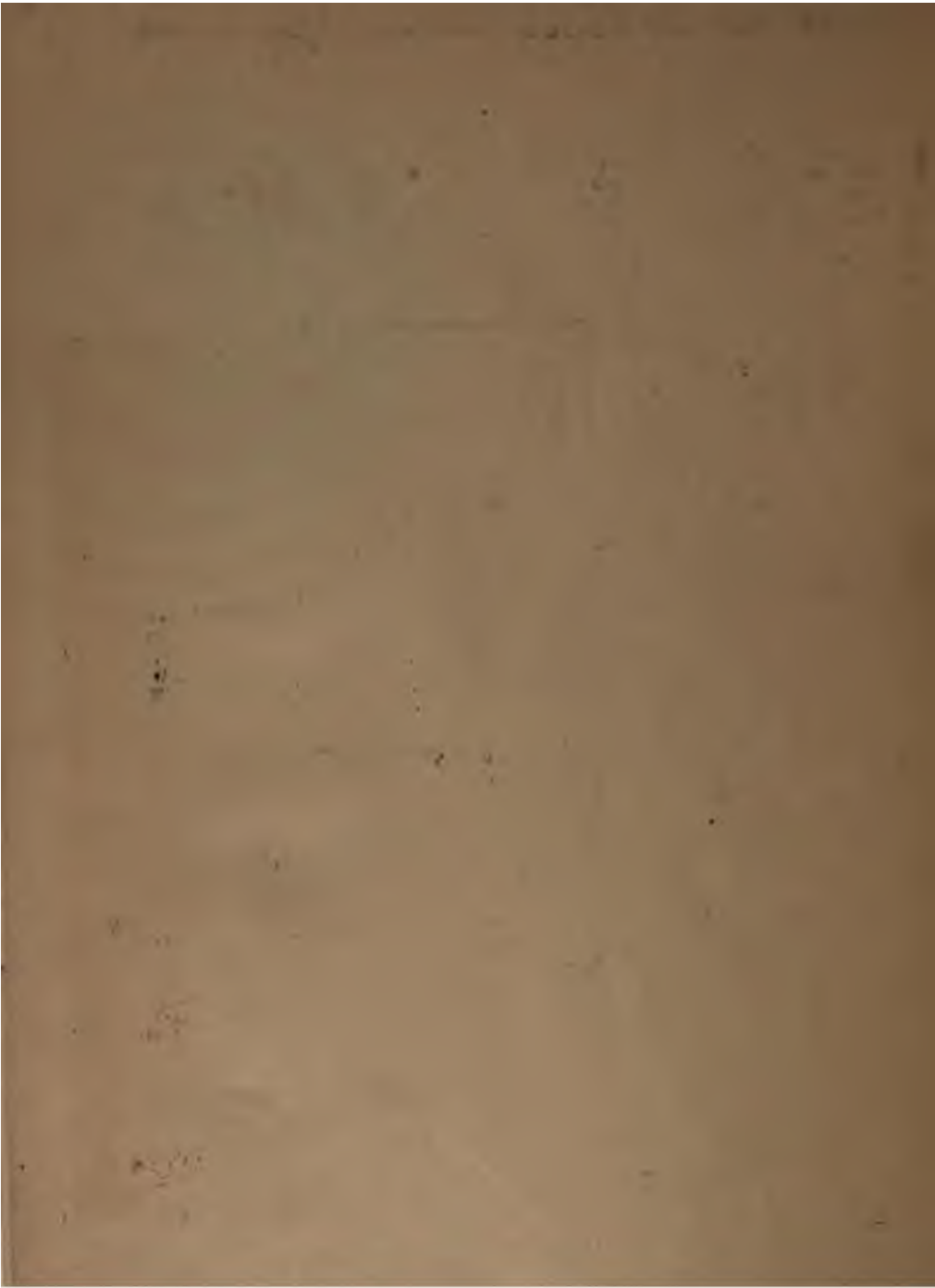




1. *Phragmites australis* (Cav.) Trin. ex Steud.  
 2. *Scirpus americanus* (L.) Gaertn.  
 3. *Eleocharis acicularis* (L.) Rostk Schmidt  
 4. *Sagittaria arifolia* (L.) Link.  
 5. *Alisma plantago-foliosa* (L.) Rostk Schmidt  
 6. *Sparganium angustifolium* Michx.  
 7. *Najas* sp.  
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